DOCUMENT RESUME

ED 192 609 FL 011 834

AUTHOR Green, Barbara Gillian
TITLE The Role of the Teacher-Made Visual Aid in the Adult ESL Classroom.
PUB DATE 80
NOTE 142p.: M.A. Thesis, Hunter College of the City University of New York.

EDRS PRICE MF01/PC06 Plus Postage.
DESCRIPTORS *Adult Education: *English (Second Language): Formative Evaluation: *Material Development; Second Language Instruction: *Teacher Developed Materials: *Visual Aids

ABSTRACT

Teacher-made visual aids (as opposed to the commerical variety) for adults are evaluated. These materials are put in perspective through a determination of their relationship to current theories of visual learning, design, color, and size. Reasons for their continued applicability for adult students are considered. A description of the uses of a number of visuals (which are in the text) is included, and suggestions for the creation of similar visuals are offered. It is concluded that teacher-made visuals have an important immediacy and remain valuable in instruction in English as a second language as much for adults as for children. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED192609

THE ROLE OF THE TEACHER MADE VISUAL AID IN THE ADULT ESL CLASSROOM

by

B. Gillian Green

Submitted in partial fulfillment of the requirements for the degree of Master of Arts (Teaching English as a Second Language), Hunter College, The City University of New York.

1980

FL011834

Thesis Sponsor:

June 5, 1980
Date

Nancy Frankfort
Dr Nancy Frankfort

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
B. G. Green

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

THE ROLE OF THE TEACHER-MADE VISUAL AID IN THE ADULT ESL CLASSROOM

CONTENTS

I Introduction

II Research and Conclusions in Related Fields

III The Visuals and Their Application

IV Field-testing and Design Ideas

V Conclusion

Appendix

Bibliography

ABBREVIATIONS

AVCR	Audio Visual Communications Review
ELTJ	English Language Teaching Journal
[ELT.]	International Review of Applied Ling. in Lang. Tchg - International Review of Applied Linguistics in Language Teaching
J.Ed.Psych.	Journal of Educational Psychology
J.Ex.Ed.	Journal of Experimental Education
J.Ex.Psych.	Journal of Experimental Psychology
J.Psych.	Journal of Psychology
Psych. Review	Psychological Review
Psych.Sc.	Psychonomic Science

ACKNOWLEDGEMENTS

This thesis would probably never have been completed in the time set but for the efforts and encouragement of a number of people:

- Professor Nancy Frankfort who provided the idea and a great deal of support;
- Diane Nutt who babysat endlessly to allow me time to research;
- Margaret McCann who agreeably undertook the typing in her own time;
- and my husband, Michael, who cooked, shopped, babysat, proofread and encouraged.

To all of them, my thanks.

INTRODUCTION

Why use visual materials for ESL students who may have had many years away from a formal educational environment; who may regard such things as childish devices; who are not in the classroom only for formal learning; who are pressed for time and positive achievement? Why not buy such things as are needed and for the rest rely on the admirable handouts from various government agencies?

The whys and wherefores of aids and devices may be hotly debated but there is little reason to believe that what works well with young learners will not work with adults; indeed, studies seem to show that adults learn better than children from visuals. Yet, on the whole, games and materials other than those used in simulation/ role playing exercises are regarded as out of place for the adult who needs concrete signs of his advance, and whose requirements are tied less to structural understanding than to survival in an environment which may be at best neutral and at worst hostile. The fact remains, however, that the adult too has to master correct sentence construction, tense usage, modals and so on, not only passively but actively. Why should such abstract concepts necessarily be any easier for the adult to learn than for the child? The opportunity to visualize such aspects of language is a positive aid to understanding.

Perhaps it is this theory of underplayed visuals for adults which has limited the abundance of visual materials aimed specifically at the adult learner, or at the adult ESL learner. Teaching materials for children in English as a first language are numerous and varied, and frequently of excellent calibre. Nothing dictates that such materials cannot be adapted for use in an ESL course, or in an adult class, but this has two limitations. Firstly, adults do not respond or learn in exactly the same way as children.[1] Their needs, their previous experience, their interpretation of themselves, their attitudes and motivation, all variously affect their learning processes and strategies. Any material to be used with adults should be aimed specifically at their requirements and their maturity.[2] Commercial materials do not fit the needs peculiar to each class or group but are designed for an abstract audience, undefined and unknown to material producers. A teacher may well be spending money on aids which must be adjusted before they can be used. This represents a considerable waste of time and money.

---

[1] See: Eve E. Gagne, "Using Pictures to Facilitate Memory". Academic Therapy Vol. XII, No. 2. Winter 1976-77 pp. 479-82. L. J. Bischoff, Adult Psychology Harper and Row, New York, 1969

[2] E. de S. Brunner and Associates, An Overview of Adult Education Research, Adult Education Association, Chicago. 1959. Paul Lindsay, "Resistances to Learning in EFL". ELTJ. XXXI, No. 3, April 1977, p.184.

Clearly, teacher-made materials have a role to play in an age where the emphasis has moved into the realm of audio-visual technology - the overhead projector, the film, the tape recorder and the like. Research in this field has been considerable; what has been less efficiently studied, however, is the role of the non-technical visual material and of visualized games in the ESL education of adults. Tanzmann and Dunn in their work on media use,[3] are all in favour of using graphic artists or media specialists, maintaining that a teacher should have valid educational reasons for preparing his or her own materials, and they criticize teacher-made materials in general for wasting teachers' time. The reasons exist, however, and materials such as these have a number of advantages. Far from being abstract, they may be designed for a specific educational level and cultural background. They may be created to cope with the problems that arise in the classroom and are consequently aimed at a very well defined audience. They may be as simple or as elaborate as the situation demands or the teacher's skill permits. Teacher-made visuals are usually considerably less expensive than those commercially available, and there are unlikely to be many schools which could afford the luxury of a graphic artist involved only in the production of teaching aids.

---

[3] J. Tanzmann and K. J. Dunn, Using Instructional Media Effectively, Parker Publishing Company, West Nyack, N.Y. 1971. pp.29-30

A further point which is relevant in considering the importance of materials produced by the teacher is that many commercial examples are not created only for their educational value. "Usually the production ... is based on the subjective feelings of the designer about what is best, the accessibility of raw information, the availability of materials, the cost, the attractiveness of the finished product and the availability of a ready market."[4] The teacher is not obliged to deal with any organization or group external to the class itself, and he or she is able to translate ideas into visual forms directly. There is no "third person interference" in such a situation, no need to have someone else interpret into visuals the ideas held by the class teacher.

Just why such materials, teacher-made or commercial, are not readily available for adults is not completely clear. A recent increase in illustrated publications for adults may be signalling a change, but up until now there seems to have been a tacit acceptance that adults function better with a purely verbal approach. There have been a number of books written on games for the second language classroom and many of these games can be used with adults. A number of these may well involve visuals but most can be played on a verbal level alone, and so the role of the visual is once again avoided.

---

[4] F. M. Dwyer, A Guide for Improving Visualized Information. Learning Services, Pa. 1972. p.2.

This thesis is concerned with teacher-made visuals for adults. It will attempt to show the role of the visual, the form it should take and the methodology which seems to be successful, recognizing that the use of these kinds of visuals should be as much governed by concepts of form, design and method as is the use of technical audio-visual material.

CHAPTER II

RESEARCH AND CONCLUSIONS IN RELATED FIELDS

It would be instructive to begin any examination of visual aids and their use with a study of perception theories and how they relate to visual learning. An individual receives information through all five of the senses but the brain cannot absorb this informational assault all at once. Instead it encodes from one channel at a time though it is capable of rapid absorption and of switching quickly from one channel to another. The visual sense is the most highly developed, not because it is any more efficient than the others but because it receives more information, not only from objects on which the eye focuses but also from peripheral areas. Clearly, however, the brain cannot absorb it all, though the ability of the brain to accept and retain visual information is considerable, and individuals learn to discriminate between what appears important at that moment and in that context, and what seems trivial. Broadbent and others concluded that the central nervous system filters out a great deal of the stimuli it receives before the information is received by the brain.[1] What one individual perceives as important, however, is not constant and may vary greatly from the interpretation of the same material by another individual. Perception is influenced by culture and experience: someone who has never seen a barge will misinterpret what he sees.[2]

A well-chosen visual seeks to manipulate this situation. It focuses attention into one of the two related channels - visual and aural - and encourages reception of the message. Certainly more seems to be learned from pictures than from their description,[3] but such pictorials are designed to bring about a change in behavioural response seen in the production of correct English constructions.

---

[1] D. E. Broadbent, Perception and Communication. Pergmon Press. N.Y. 1958; R.M.W. Travers, "The Transmission of Information to Human Receivers", AVCR Vol.12 1964.pp 373-85. R. N. Haber and M. Hershenson, The Psychology of Visual Perception. Holt, Rinehart and Winston, Inc. N.Y. 1973, esp. Chap. 7. R. N. Haber, ed. Information - Processing Approaches to Visual Perception. Holt, Rinehart and Winston, Inc. N.Y. 1969. W. O. Shaffer and R. M. Shiffrin, "Rehearsal and Storage of Visual Information", J.Ex.P. Vol. 92, 1972, pp 292-6. G. E. Briggs and J. Blaha, "Memory Retrieval and Central Comparison Times in Information Processing". J.Ex.P. Vol. 79. 1969. pp. 395-402.

[2] See J. J. Gibson, "A Theory of Pictorial Perception". AVCR Vol.2. 1954, pp. 3-23; Seth Spaulding, "Communication Potential of Pictorial Illustration", AVCR Vol. 4, Winter 1956, pp. 31-46.

[3] K. Dallet and S. Wilcox. "Remembering Pictures versus Remembering Description". Psych. Sc. Vol. 11 1968, pp. 139-40.

The change is the result of the required forms being held in the memory, particularly the long-term memory. In adults, it appears that the link between the visual and constant memory is the short-term memory. It is believed that the visual image is encoded into an acoustic form which is internally rehearsed and passed into storage. Rehearsal and repetition, probably in a semantic representation, stores the material on the long-term and from this area of memory it can be retrieved, used (and thus rehearsed) and returned endlessly.[4]

The absorption process is affected by the known or unknown quality of what is seen, and by the amount of time that the visual is exposed to the student. Shaffer and Shiffrin carried out an experiment[5] where 120 pictures were presented to subjects at carefully varied times, both of exposure to a single visual and of duration between the presentation of two different pictorials. Accuracy of memory improved when exposure to the pictorials was increased, but the time between the showing of one picture and the next made no difference. An interesting feature is that the pattern of linguistic reception is different: there the important feature is not the amount of time information is presented but the time gap following it during which verbal rehearsal is practised. The two channels can thus be used to reinforce each other.

---

[4] Haber and Hershenson, pp. 161-75; Haber ed, pp. 17-89

[5] Shaffer and Shiffrin 1972

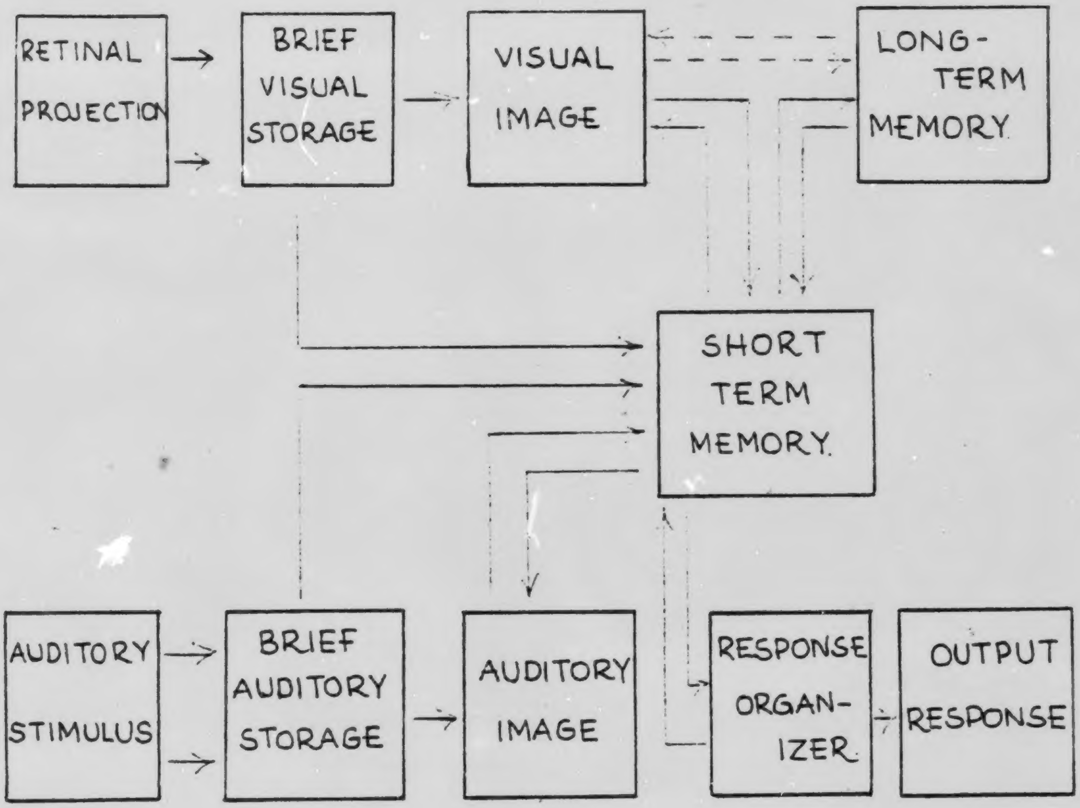
"Sensation, perception, memory and thought must be considered on a continuum of cognitive activity. They are mutually interdependent."[6] The result of this is that all learning processes should be considered as related; the visual sense cannot be isolated from the other cognitive processes. While this is true it should be recognized that visual stimuli, though numerous, are generally easier to encode than verbal stimuli. Complex though they may be, visuals are less complex than verbal symbols and less ambiguous. Verbals have many more associations and thus present a learning screen, a response complicated by the necessity to encode all the associations and then decide which one is applicable.[7]

However, the interdependence of visual and aural skills is apparent. The fact that information is taken faster from visuals but stored acoustically and semantically underscores this and points out an important implication for teaching. Visuals increase the amount of information taken into the short-term memory and enable much information to be held in a visual memory until it can be attended to by memorization processes. If the coding into the long-term memory relies on that first stage, as the following diagram suggests, then visuals are important in the more permanent reception of information.

---

[6] Haber ed. p.l.

[7] George L. Gropper, "Learning from Visuals: some Behavioral Considerations", AVCR Vol. 14. Summer 1966. p. 59; J. A. Deutsch and D. Deutsch, "Attention: Some Theoretical Considerations", Psych. Review, Vol. 70 1963. p p. 80-90.


RETINAL PROJECTION
BRIEF VISUAL STORAGE
VISUAL IMAGE
LONG-TERM MEMORY
SHORT TERM MEMORY
AUDITORY STIMULUS
BRIEF AUDITORY STORAGE
AUDITORY IMAGE
RESPONSE ORGAN-IZER
OUTPUT RESPONSE

---

[8] Haber and Hershenson, p. 162.

The visual-acoustic link suggests, in turn, that pictorials could encourage verbal retrieval and thus play an important role in learning transfer. Most of the studies on this aspect have been in rather esoteric fields such as comparing the recall of visual versus verbal materials.[9] These are valid for an understanding of perceptual concepts but do not shed a great deal of light on the practical questions of the teaching environment. Indeed, it might be queried whether one can easily test for visual recall at all without resorting to a verbal-aural medium. Usually visuals are intended to improve verbal processes anyway so there is little point in dividing them. At all events, the cognitive patterns outlined above suggest that pictures can recall associated verbal material, but the processes are still incompletely understood. There is, therefore, little way of giving definitive answers.

What are the implications of this for teaching and its methodology? In some areas answers are clear, or may be hazarded; in other areas, more questions appear. What is immediately clear and is the base on which this thesis is built is that visuals, in a still form as well as movies, are valid in classrooms, that modern technological advances have not replaced them. In order to discuss the question of visual use, certain points need to be considered:

---

[9] See the "paired associate" work of A. Paivio, F. Wicker and others.

What role do visuals play in an educational environment?

What form should they take?

How should they be used? What are the concerns governing methodology?

In what ways does this relate to adults?

Our world is media saturated. From the time of earliest consciousness we are bombarded with visual experiences which bring us into contact with the world we live in. The usual learning pattern in early childhood is seeing → touching → comprehension, or seeing → request for information → comprehension. The real world cannot be brought into the classroom but a representation can, and so the natural learning sequence can be reproduced, albeit artificially.

The first important role of the visuals is the one they play in the passage of information. It has been acknowledged in what studies have been carried out in this specific aspect that a great deal of information can be transmitted visually and transmitted quickly; it is this factor which has contributed to the use of visual rather than verbal symbols in road signs. Lockard and Dallet and Wilcox have shown that more information is absorbed from pictures than from a description of them.[10] In many areas, visuals would be the only way to describe an object by avoiding the semantic misunderstandings which are latent in verbal descriptions. How, for example, could one ensure that the concept of the dinosaur was understood without a pictorial representation? They can, therefore, illustrate realities unknown to the student.

---

[10] James Lockard, "Educational Media in the Foreign Language Classroom", Paper presented at the Conference on New Methodologies in Modern Language Teaching, Oct. 29, 1971; Dallett and Wilcox .

No information can be well-transmitted without understanding the student's level of motivation, and here, too, visuals have an important place. What is known is that visuals raise the motivation of students but it is not clear exactly why. Motivation must be nurtured by the teacher; it exists in all students, but it is the teacher and the techniques employed which bring it to the fore. All students feel the need to achieve and to feel confident in their ability to manipulate their environment. Visuals and the games with which many are associated can help to achieve these goals. A visual aid, when well-designed relates to the real world and to the material being taught. By understanding the visual, the student is coming to grips with what may be a strange environment.[11] Visuals enable students to use what they know of the new material by stimulating a response. By avoiding further verbal bombardment they enable the students to deal in their own ways with new thinking processes. More than motivation is at play; such a situation enables the student to use the language, not just observe it, a vital part of the motivational process.[12] They provide a setting and a framework for early creative thinking in the new language and cue verbal responses.[13] Whether or not the responses are wholly accurate is not always as important as the part the cued response plays in reinforcing confidence which is related to motivation. A knowledge of the results of one's efforts is valuable, but motivation needs direction and visuals can help. Students themselves appear to regard visuals as desirable and effective. They indicated that they felt that these aids facilitated learning and improved understanding.[14] Clearly, if such attitudes are carried over into ESL, the reaction of students to the presentation of visuals is very positive and the presentation alone is motivational.

---

[11] John Kleinert, "More Ways to Motivate", Instructor, Vol. 83, Aug/Sept. 1973. pp. 88-90

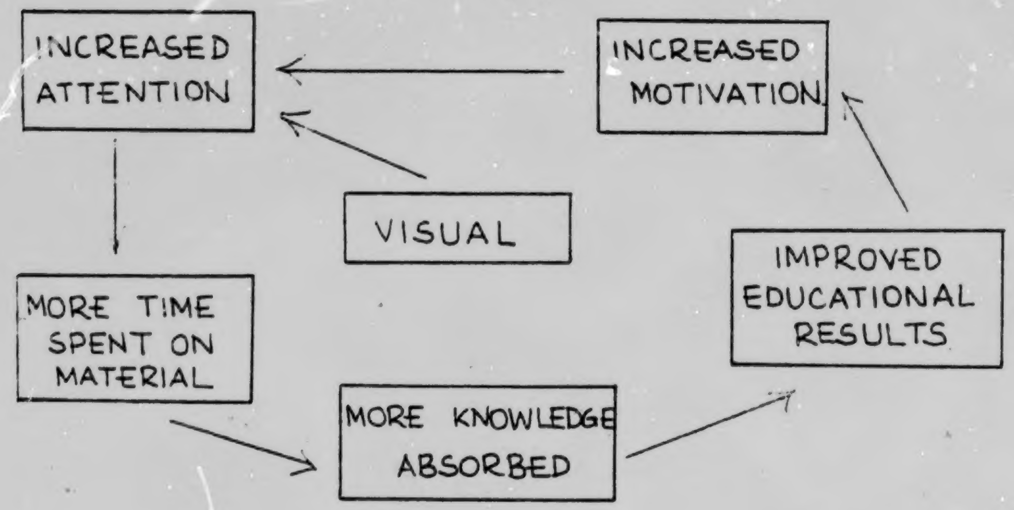
---

[12] A. F. Deyes, "Language Games for Advanced Students" ELT, Vol. XXVII, No. 2. Feb. 1973 , p.160
Bruce Pattison, "Organising Motivation", ELTJ, Vol. XXX No. 4. July 1976 pp 286-93.

[13] George L. Gropper, Role of Visuals in Verbal Learning, Dept of H.E.W. Publication, 1958. Catharine M. Williams, Learning with Pictures, N.E.A. Washington, D.C. 1968

[14] F. M. Dwyer, "Student Perception of the Instructional Value of Visual Illustration", in F. M. Dwyer, A Guide for Improved Visualized Instruction, Learning Services, State College, Pa. 1972,pp. 60-61

Allied to this is the fact that greater attention is paid to visual material.[15] To some extent this fact alone explains the value of visuals as teaching tools. Variety of form and structure is as important in a textbook or lesson as it is in everyday life. "Monotony is a powerful deterrent to learning."[16] Visual variation is interesting. Dwyer found that the attention span of students presented with pictorials increased while the speed at which work was completed decreased. The combination seemed to yield greater concentration and retention.


INCREASED ATTENTION
INCREASED MOTIVATION
VISUAL
IMPROVED EDUCATIONAL RESULTS
MORE TIME SPENT ON MATERIAL
MORE KNOWLEDGE ABSORBED

---

[15] Gropper. 1958. Dwyer. Guide pp. 35-8, 53-5, James L. Thomas, The Use of Pictorial Illustrations in Instruction: Current Findings and Implications, Dept. H.E.W. Public. 1976, p.4.

[16] E. Dale, Audio Visual Methods in Teaching, Dryden Press, N.Y. 1969, p.152

Verbal stimuli, as has been noted, are more open to misinterpretation than visual stimuli and this becomes particularly true in ESL. For the less talented student the need to concentrate constantly on what he/she is hearing in order to understand undermines confidence and hence production. Education typically is verbally oriented, particularly above the elementary level but for students who lack an ease in verbal symbolism such a system can be disturbing. Visuals provide an opportunity for students to respond with a minimum of decoding, and this opportunity is as open to the capable learner as much as to the struggler. What varies between the two is not the understanding but the response.[17]

The concept of a limited decoding system being needed when visuals are used is supported by James Lockard who believes that this can help to prevent the intrusion into the classroom of the students' mother tongue. In providing a direct multi-sensory link between the new language and the image, the visuals discourage regression and reinforce the use of the second language.[18]

Reinforcement in any form attempts to ensure comprehension. At the level of concrete substances or articles comprehension is usually straightforward. Language, however, involves many abstractions, concepts not easily explained verbally. Visuals once again become important. They do not have to reflect reality; they can as readily interpret. Since they are already symbols, the symbolism can extend to a clarification of concepts as a process "where the concrete and the abstract interact".[19] Dale's cone of experience illustrates this. All the experiences shown are interrelated and the movement of comprehension which links them can as readily go up as down. The shape does not represent increasing difficulty but increasing abstraction of learning experiences, a range from direct and concrete experience at the base to the ultimate abstraction, letters and words. Visual abstractions, such as pictures, recall past experiences and by pointing out the continuous links through the cone, relate abstract to concrete. There must be very few teachers who have not, for example, attempted to describe verb constructions in visual terms, or to illustrate the concept of the preposition.

---

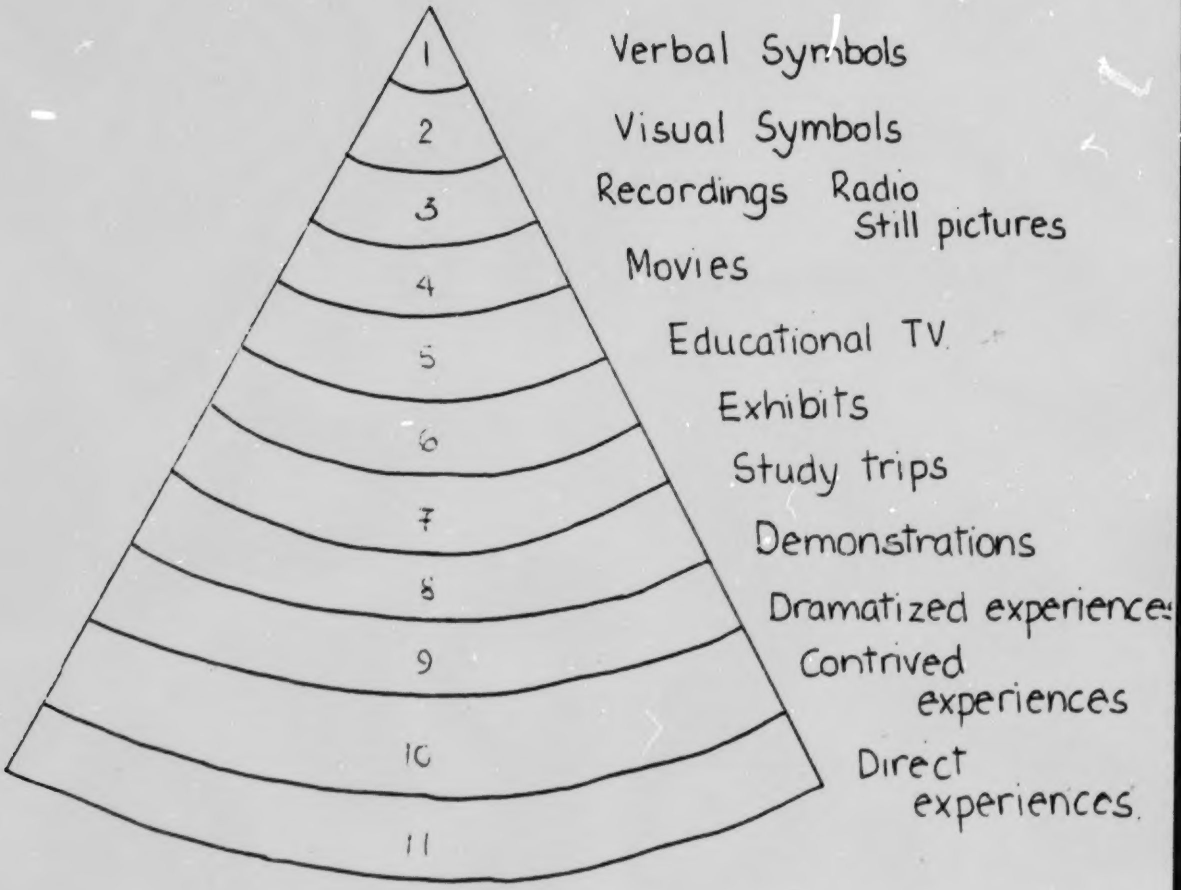
[17] Dale, Chap. 5. Gropper (1958), pp. 3-4

[18] Lockard, p.5.

These, then, are some of the roles of visual aids in education. It has long been recognized, however, that simply accepting the usefulness of visuals does not mean that visualizing instruction will guarantee that students learn more effectively. Not only are visuals frequently

---

[19] Dale, p.101


1
Verbal Symbols
2
Visual Symbols
3
Recordings Radio
Still pictures
4
Movies
5
Educational TV.
6
Exhibits
Study trips
7
Demonstrations
8
Dramatized experiences
9
Contrived experiences
10
Direct experiences.
11

From Edgar Dale, Audiovisual Methods in Teaching Dryden Press, N.Y. 1969. p. 107

designed by people not actively involved in their classroom use but the tendency is to believe both that students will see in the aids exactly what the designer sees, and that they will all see the same thing.[20] This is not so, and thus the designer must be acutely aware of the purpose and the group for which the illustrations are intended. A viewer brings his/her past experiences to a picture and interprets it according to those experiences. Our own culture is accustomed to pictures and the conventions of drawing - the relative sizes to show distances, the methods of delineating depth and perspective, the small parallel lines which hint at movement and so on.[21] Adults, in particular, come to education with "preconceived ideas of learning and teaching as well as previous learning experiences",[22] and they may require a form of re-education. Students need to be taught how and what to observe; they may have to learn how to learn from illustrations.[23]

How can teachers ensure as much as possible that students will interpret the material as intended? Firstly, size and clarity are important. A picture which is too small will distract attention from the information to the attempt to see the material. On the other hand, a picture which is too large will cause changes in scanning from an overall pattern to disjointed patterns in an attempt to find the relevant information.[24] What is important is the relationship between objects. Clarity too is vital in focusing attention. A careful balance of images, a concern for size and spacing can encourage attention to certain features of an illustration rather than others. By varying depth and scale of vision, a designer can influence interpretation,[25] and in planning materials it appears that two important considerations should be kept in mind.

---

[20] Dwyer, Guide, p.2.

[21] Gropper (1958), p.32

[22] Paul Lindsay, "Resistances to Learning in EFL", ELTJ XXXI, April 1977, pp 184-90, p.184

[23] Dale, pp. 432-36, Kenneth Norberg, "Visual Perception Theory and Instructional Communication", AVCR, Vol.14, Fall 1966, pp. 301-18

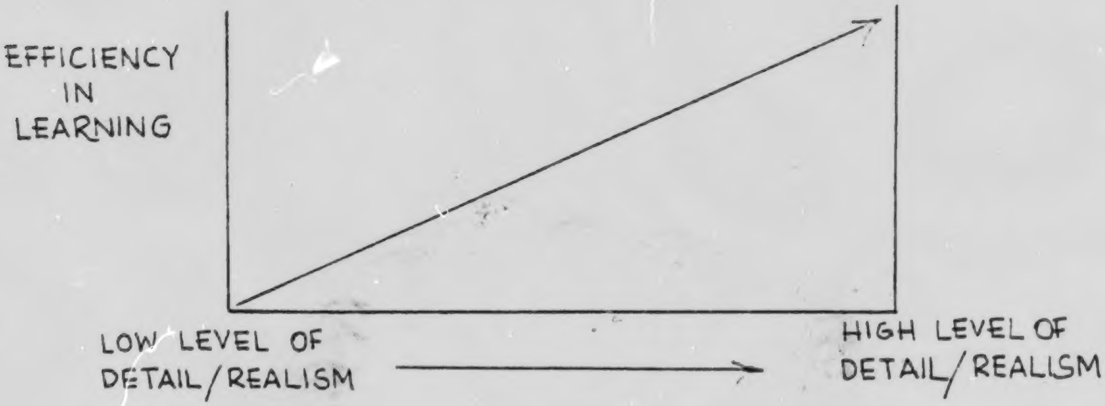
There is a natural tendency in vision, at least in left to right readers and possibly in others, to begin at the left and move to the right, allowing the glance to rest at the right. Artists have recognized this fact for years. Material which dominates the right hand side of an illustration, and particularly the right centre to right lower corner, is likely to be remembered. In fact, it is possible to underemphasize features in the lower right quadrant and still have it absorbed. Clearly, this is useful in planning the most effective layout of a pictorial.[26].

---

[24] G. Sperling, "A Model for Visual Memory Tasks", in Haber, (ed), Information-Processing, pp. 21-25 F. M. Dwyer, "The Effect of Image Size on Visual Learning", J.Ex.Ed. Vol. 39, 1970, pp. 36-41

[25] Rudolf Arnheim, "A Study of Visual Factors in Concept Formation", Dept of H.E.W. Pamphlet, Washington, D.C. 1968, p.14. Jerry M. Linker, Designing Instructional Visuals: Theory: Composition: Implementation, University of Texas, 1968,pp. 16-18

Secondly, because of the relationship between scanning and the absorption of information, there is an important connexion here between what can be assimilated and features of realism and times of presentation. During the 1940s a theory was put forward of a realism continuum. This asserted that the more qualities of realism a visual had, the more it would resemble the reality being taught. This greater resemblance to reality, it was believed, would facilitate learning more rapidly and with increased retention.



Since oral and verbal description bear no physical resemblance to an object, they would be less likely to ensure comprehension than visuals, and in a study of visuals, detailed coloured photographs could be expected to yield better results than simple black and white line drawings.

---

[26] Haber and Hershenson, pp. 172-3; Linker, pp. 2-3

Research during the 1950s and 1960s soon established, however, that the realism continuum was faulty, and recent studies have reinforced this.[27] Travers was one of the first to put forward the idea that the brain can be "overloaded" by a multitude of media details and that in order to process quickly it will begin to filter out the excess and much relevant information may well be lost. His experiments involved testing multi-media approaches, and pointed up the theory that only one channel was gaining total attention at any one time. It should be recognized that these studies focused on the visual and aural presentation of verbal symbols, not iconic pictorials, but his findings had an important effect upon encouraging interests in this field and other studies resulted.

---

[27] Dwyer; R.M.W. Travers, "The Transmission of Information to the Human Receivers", AVCR. Vol. 12, pp. 373-85; D. E. Broadbent, Perception and Communication, Pergamon Press, N.Y. 1958. J. J. Gibson, "A Theory of Pictorial Perception," AVCR Vol. 2, 1954, pp 2-23; Thomas; G. W. Boguslavsky, "Study of Characteristics Contributing to the Effectiveness of Visual Demonstrations," Rensselaer Polytechnic Institute, Troy, N.Y. 1967; A. J. Galfo, "A Study of the Effects of Pupil Achievement of Certain Audio and Visual Presentation Sequences," College of William and Mary, Williamsburg, Va (no date); W. A. Borg and C. F. Schulter, "The Use of Details and Background in Visuals and its Effect on Learner Achievement and Attitude," Paper presented at Annual Meeting of the American Educational Research Assn, Toronto, Canada, March 1978; John H. Joseph, "Instructional Effectiveness of Integrating Abstract and Realistic Visualization," Paper presented at Annual Conference of Association for Educational Communication, New Orleans, La, March 1978; W. H. Allen and W. A. Daehling, "Exploratory Study of Form Perception as Applied to the Production of Educational Media," U.S.C. Los Angeles, 1968; Dale Franzwa, "The Influence of Meaningless, Picture Detail and Presentation Mode on Visual Retention," AVCR, Vol. 21, Summer 1973; Haber (ed) Information-Processing

These investigations came to the conclusion, in a variety of ways, that totally realistic detail did not necessarily lead to increased comprehension but that, instead, it could defeat the learning purpose. It was clear that only enough detail to avoid ambiguity should be included and that any more should probably be avoided. Students dealing with realistic detail seemed to be distracted from their learning objectives, and in experiments which were time-limited, they certainly functioned less well than students using more simplified material. In other words, the realism continuum does not reflect a learning continuum; indeed, learning may, in some cases, work in a reverse order after the information-processing peak is reached. "Learners do not need highly embellished stimuli in order to recognize the attributes of an object or situation."[28]

Once again this has implications for design. Simplicity of structure leads one's attention to important features of the material and the addition of "embellishments" may result in the main points being lost or confused. This is particularly relevant in view of the fact that it appears that only the essentials which are first apparent and absorbed will be retained over a lengthy period of time.

---

[28] Dwyer, Guide, p.88

Though this seems to suggest that simple line drawings, or representational rather than realistic materials, should be used, it is vital to recognize that the effects of visualization are highly sensitive to the effects of purpose and methodology. Methodology will be considered later but now it should be seen that purpose dictates form. Perhaps Dwyer's most cogent conclusion was that one cannot easily write a simple guideline for the production of visuals. As a general rule, it seems that great detail is unnecessary, but just how much is employed rests upon what is being taught and how. Much of the work done in this aspect of visual education has been in science or in fields which deal with physical concerns such as medicine or geography. It may be that in a field such as ESL, which confronts many linguistic abstractions, detail will tend to confuse rather than clarify, but obviously that is an aspect which requires more specialized research.

Associated with the realism versus schematism problem is that of the period of time for which students are shown the visualized materials.[29] It is clear that time is needed to absorb the information presented in visuals and this is consistent with what is understood of visual processing. This does not imply that visualized instruction is inefficient, simply that it requires different coding procedures. Many experiments undertaken have been in programmed instruction where the amount of time given to each visual has been dictated by the machine or the teacher. This places realistic visuals in particular at a disadvantage as all the information they contain may not be processed in the time allowed. In self-paced instruction, however, the value of visuals rises sharply. Exposure time is extremely important and if visuals are to achieve their aims, relative freedom of absorption time should be allowed.

---

[29] Dwyer, Guide, pp. 80-86; Eugene A. Craig, Acquisition of Visual Information, Office of Education, Washington, D.C. 1972; Thomas, p.5.; G.L. Gropper, "Why is a Picture Worth a Thousand Words", AVCR, Vol. 11, July-Aug. 1963, p.82

A final issue bearing on realism and the pictorial is the matter of color. This has given rise to a great deal of discussion and it remains a controversial point, possibly because it is hard to determine if it is colour itself which plays a role in retention or whether the effects stem from some psychological reaction to colour. At the moment investigations tend to focus on color's "unique role rather than its possible interrelated role in the learning process".[30] Similarly little work has been done on the uses of realistic colour very symbolic colour - would the fact that many students see reds, oranges and yellows as active and positive colors, and blues, greens, and black/white as inactive have anything to do with the students' learning?[31] Ultimately the same conclusions can be reached about colour as were reached on the subject of realism - that much depends upon the individual subject, the illustration employed and the methodology applied - but certain specifics can be attempted.

---

[30] R. J. Lamberski and D. M. Roberts, "Efficiency of Students' Achievement using Black/White and Color-coded Learning and Test Materials." Paper presented at Annual Conference of Association for Educational Communications, New Orleans, March 1979, p.4.

What are the purposes and possible achievements of colour? It may ensure a realistic representation of an object, such as in a colour photograph, in which usage it may present a distraction. Colour is an aspect of realism as we live in a colourful world, and just as lineal detail in an illustration may become overwhelming, so too may colour. Berry, in a study of the effects of colour realism, concluded that greater retention of information is associated more with visuals in non-realistic colours. He found that colour cues aided the storage and retrieval of information, but that realism was not a prerequisite.[32] Dwyer too decided that colour details and realism tend to be distracting except in specific fields such as medicine.

---

[31] W. Winn and R. J. Everett, "Differences in the Affective Meaning of Color vs Black/White Pictures". Presented at Association for Educational Communication and Technology, Annual Convention, Kansas City, April 1978.

[32] L. H. Berry, "Effects of Color Realism on Pictorial Recognition", Presented at Association for Educational Communication and Technology, Annual Convention, April 1977, Miami Beach.

When colour is used, however, to distinguish differences or to identify its value increases. It can help to contrast and compare as in maps or biological diagrams by explaining relevant features. If recognition is not clear then colour may be a comprehension aid.[33] Similarly, colour can highlight various parts of an illustration and direct the eye. The same colour used with care may suggest a relationship in a diagram, and gradations of the same hue present an impression of flow or movement, as in a contour map. Information is linked and connected, or separated and emphasized. It is in this area of identification that the use of colour is at its least controversial.

The most difficult area of colour import to pin down precisely is that of impact. Colour has always had associations with emotions - red with rage, blue with cold, yellow with fear, in our culture, for example - and it is possible that such associations are carried through into recognition in educational media. There are also considerations of individual concepts of harmony and disharmony, and the value that some colours have within differing cultures; the most obvious example of this is the connexion with death of black in Western cultures and of white in Eastern ones. Adults of colour-conscious cultures will accept stronger tones than those whose environment tends to pastels.

---

[33] D. Franzwa, p.215

Colour can have a considerable effect on its interpreters in terms of likes and dislikes, enjoyment or rejection. It can, also, it seems, have certain physiological effects in changes in the heart rate, respiration and muscular tension.[34]

It is this very personal reaction which is regarded as one of the strengths of colour - that colour seizes the attention of a student - but it explains the difficulty of laying down guidelines for its use. In studies quoted (and in some carried out) by Dale, by Thomas and by Dwyer(35) students were asked which they preferred - colour or black and white - and the answers were consistently in favour of the former. Colour visuals usually command more attention and this, in turn, leads to greater absorption of the material. The use of colour can prompt good recall of the whole, and better memory of specific details. Arguments on its use continues; again it must be left to educational objectives to dictate how much colour is used and what hues, keeping in mind the matter of usefulness, not merely aesthetics.

All of this leads not to one clearcut conclusion but to a number of probabilities balanced with as many cautions. Firstly, visuals have undeniable educational value when well-designed. It is the designing and use of the illustrations which may affect that value. Norberg points out that "pictures used improperly or in the wrong context may ... interfere with the operation of logical processes inherent in language".[36] For it should always be remembered that the ultimate aims of visuals in education generally, and ESL in particular, are not the reproduction of the pictures but the comprehension and recall of the linguistic information contained in them. Visuals are intended to elicit responses, and current research seems to suggest that in most cases visuals should be in simplified form, that colour is an attention-getter and is important in identification but should be treated with care, that the movement of the eye and the processing of information is eased when the design is well-spaced and clear, and that realism does not predict instructional effectiveness. While accepting that, one should remember that any or all of these comments must be placed in the context of what is being taught, the grade level and general ability of the students, and the teaching methods.[37]

---

[34] Dwyer, Guide, p.8.

[35] Thomas, pp. 4-6; Dale, pp. 570-592; F. M. Dwyer, "Student Perceptions of the Instructional Effectiveness of Black/White and Colored Illustrations", J.Ex.P. Vol. 40, 1971, pp.28-34; Dwyer, Guide, pp. 60-66, 72-73

---

[36] Norberg, AVCR, p.311.

[37] John H. Joseph, "Instructional Effectiveness of Integrating Abstract and Realistic Visualization", Paper Presented at Annual Conference of Association for Educational Communication, New Orleans, March 1979, p.7.

Methodology has been referred to again and again, but it becomes important in deciding not so much the role as the educational impact of visual material. Most of the major studies into the effectiveness of illustrations temper their conclusions by pointing out that a great deal depends on the ways in which they are used.

To aid the assimilation process questions are useful in focusing attention, whether they are presented aurally or on paper. Dwyer, in a study relating questions and their effects on learning achievement, concluded that questions were an effective cueing device, but had two qualifications to make. Firstly, the usefulness was greater when the illustrations were not overly detailed or when the students had enough time to absorb detailed information. If this is not a feature of the educational situation, students do not process the material evenly but aim for those parts which will provide quick answers. The speed and the sense of anxiety reduce the memorization. With less realistic material, the use of questions was "an effective instructional technique for increasing student achievement".[38] Secondly, he found that in textbooks visual absorption was not helped by questioning as the students tended to rely on the written word rather than the visual representation to provide the answers.[39] Allen, in a more general way, concluded that questions were important in increasing learning, and orienting an approach to the visual.[40] The point that Dwyer makes is valid, however. Most students in almost any field of study would be more accustomed to oral and verbal instruction; many of them may never have dealt in any depth with instructional visuals. When they are presented with a choice, therefore, they block out the less familiar and revert to the known channel. In order to gain more from visuals, some students may need to be taught how to learn from visuals and how to let the materials encourage creative thought.[41]

---

[38] Dwyer, Guide, p.43.

In view of this it is important that the students see the visuals as meaningful to them and what they are learning. There are a number of ways of ensuring this but two of the most valuable have aspects in common. The illustration should be directly related to the topic. This sounds very obvious but can be forgotten. A visual should clarify any aspects which are difficult to understand, or tie ideas together, or illustrate processes and so on. It should never be regarded as decoration. An educational pictorial can only be damaged by non-essential additions:[42] think, for example, of a twentieth century layman's reaction to sixteenth century maps with their wind cherubs, mermaids, sea dragons and the like.

---

[39] F. M. Dwyer, "Effective of Questions on Visualized Instruction, J.Psych. Vol. 78, 1971, pp.181-83

[40] William H. Allen, "Intellectual Abilities and Instructional Media Design", AVCR, Vol. 23, n.2., 1975 Summer p.146

[41] Grcpper, Role of Visuals, p.31; Spaulding, p.35.

Secondly, the students, particularly adults, have an enhanced view of learning if the objectives are known. This not only creates meaningfulness but also helps to focus concentration and attention. Like questioning, this can lead attention to certain important aspects of a visual and encourage the required responses, and adults in this situation feel able to make educational and intellectual decisions[43]

The combination of concentration and questioning has a decided effect on scanning. The eye can be encouraged to notice certain informative details instead of others. The material in Figure 5 [44] shows clearly the scanning patterns before and after questioning or the establishing of objectives, and is illustrative of the effects teaching technique can have on the usefulness of visual aids. Orders before learning encourage the onset of the process of testing for generalisations and material is encoded more rapidly; in some cases, the motivational aspects of prior knowledge of what was sought meant that students continued to receive information and store it despite auditory interference.[45]

---

[42] Gropper, Role of Visuals, p.27; Thomas, pp. 2-6; John S. Tong, "Visual Aids and Language Learning", Speech presented at Rocky Mt. Modern Language Association Conf., Las Vegas, Oct. 1971, Franzwa, AVCR, Vol.21

[43] Linker, p.8., R. N. Haber, "Nature of the Effect of Set on Perception", Psych. Review, Vol. 73, 1966, pp.335-51.

[44] Haber and Hershenson, p.225.

Storing of information is difficult without repetition and this is a vital part of teaching with visuals. It can be interpreted as being composed of two components: rehearsal of material at the time of learning, and the return to the information after a longer period of time. The first ties in once more with the question of exposure timing. Studies have suggested that both visual and aural material are rehearsed in the immediate memory and then passed to the short-term memory, where further rehearsal, possibly verbal, is made in order to encourage longer retention. It is therefore important that time be allowed for these rehearsal periods, rapid though they may be. Too much information presented too quickly denies the student rehearsal time and leads to faulty or incomplete retention. A slower rate of presentation is preferable.[46]

---

[45] Haber, "Effect of Set", p. 329; Anna Treisman and Gina Geffen, "Selective Attention: Perception or Response," in Haber (ed) Information-Processing, pp. 373-88; George Sperling, "A Model for Visual Memory Tasles," p. 30 in Haber, pp.18-31.

[46] Michael I. Posner, "Rate of Presentation and Order of Recall in Immediate Memory," in Haber (ed) Information-Processing, pp. 279-82. M. C. Corballis, "Rehearsal and Decay in Immediate Recall of Visually and Aurally Presented Items," pp. 362-8. Haber, "Effect of Set". D. E. Broadbent. "Word Frequency Effect and Response Bias", Psych. Review, Vol. 74, 1967, pp. 1-15. Treisman and Geffen; Sperling, "Model"; G. Sperling, "Successive Approximations to a Model for Short-term Memory", in Haber (ed) Information Processing, pp. 32-37; Michael I. Posner and Steven W. Keele, "Decay of Visual Information from a Single Letter", in Haber (ed) Information-Processing, pp.65-68

The second aspect of repetition could be regarded as a form of testing. Material needs to be used in order to become part of a student's vocabulary and usage. Recall of information can be triggered by the visual or by an aural approach; both are useful. The important feature is the reactivation of stored material, an important part of the learning process and essential if errors are to be eliminated or at least lessened. The role of visuals in this reinforcement and testing aspect of learning is important for checking to discover whether an error has been corrected and a "behavioural change" achieved.

Finally, the method of presentation should be considered. It has been established in numerous experiments that visuals alone are not effective; since, as Norberg points out, the aim of any media use is the advance of linguistic and verbal skills,[47] and since visual material is ultimately encoded verbally anyway, this is hardly surprising. Oral and verbal education gives good results, as it has done for generations, but visuals clearly add a great deal to educational interest and effectiveness. What is being considered, then, is a joint methodology - a visual-aural approach.

The problem is once again that of crowding the communication channels which results in a failure to comprehend. This fact suggests that the best approach would be to separate the visual and aural aspects of the educational experience and present each independently. The evidence, however, does not support this belief, and appears to show that a joint approach is best. Greater learning seems to result when the visual precedes the oral presentation; this has become particularly clear in the acquisition of "technical language and verbal chains".[48] This pattern reflects the pattern of normal learning experience; a child sees something, and then finds out about it, frequently by asking relevant questions. The point is that having seen the object, or the picture, the child knows which questions to ask; there is a visual framework upon which to hang the aural information. This method of teaching also ensures that one channel is not used to the exclusion of the other, but each is utilised alternately. Secondly, the presence of the visual before and during the presentation of the aural acts as a continuous support and point of reference, and interaction with the visual is lengthened.

---

[47] G. L. Gropper, "Learning from Visuals", p.51.

James Thomas raised the question of potential areas for continued research which would have an impact on design and methodology. Firstly, he wondered whether varying the relationship within a particular subject of the pictorial and written content matter would "influence the comprehension of different achievement levels". Generally textbook material in the visual-verbal approach relies on the written word with visuals linked to the material but often representing a rather haphazard amount of information, and frequently for reinforcement rather than explanation. Would an increased pictorial content and a change in pictorial role affect learning? Another point raised by Thomas is whether the "degree of correlation between the written text and the pictures influence the learning by the student". It is known that visuals unrelated to the written material act as interference, but it would be interesting to discover whether the usual method of illustrating an interpretation of a small portion of the text is more or less effective than, for example, a sequence of illustrations which explain more of the written version. And finally, and perhaps most interestingly, Thomas states that the extent to which individual objectives such as concept formation, the acquisition of factual information, the advance of perceptual motor skills, the ability to observe and assess material and the like are affected by varying the inclusion of visuals is largely unstudied. While it is now accepted that learning generally seems to be advanced by the inclusion of visuals, the ways in which the learning process can be subdivided into gains in individual skills has yet to be investigated.[49]

---

[48] ibid p.50

What are the implications of all this for adult students of ESL? Many of the studies mentioned in this thesis have been in child research and the area of adult learning patterns certainly needs more attention. As was touched upon earlier, there is little evidence to support the proposition that adults do not achieve as much as children when presented with visuals. A number of researchers have all proved that adults do indeed learn from visual material and that visuals can facilitate comprehension for adults in a number of fields.[50] The attitude which seemed to discourage the use of illustration may have arisen from interpreting those illustrations readily available as childish, and it is true that until quite recently most visualized work would have been in children's books, or in scientific, technical or other specialist manuals. The negative reaction may well have been reinforced by the frequently inhibited and conservative response of adult learners.

---

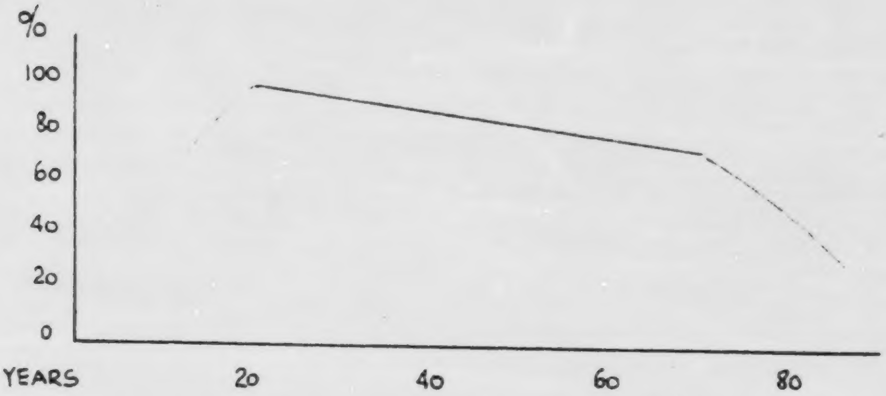
[49] Thomas, "Use of Pictorial Illustrations", p.13.

It is true that adult education is faced with a number of problems unique to itself. The student body may show great variations in background and education, and in age. Age may present problems of sight and hearing. Eyesight peaks at between 20 and 25 years of age, and past the age of 40 declines at a greater rate. Students in the latter age group need larger print and sharper contrasts in colour. There may also be a decline in hearing acuity, a loss which, if it is present, can produce frustration and withdrawal from the learning environment. In these situations visual aids gain a new value and importance.[51]

---

[50] Thomas noted in the article above in 1976 that there was a dearth of research into adult preferences and that most emphasis had been upon the needs and responses of children. Since then more research has been done in adult learning but there is room for much more.

Reaction time, too, decreases, and visual reaction time becomes slightly slower than auditory reaction time. This does not suggest that visuals decline in value - indeed, theory suggests the opposite is true - but it does mean that lessons should be well-paced with adequate time allotted for the assimilation of the material and for its rehearsal. The following graph (Figure 6) illustrates the peak and decline of visual reaction, but it also emphasizes that the decline until the 60s is gradual.[52]



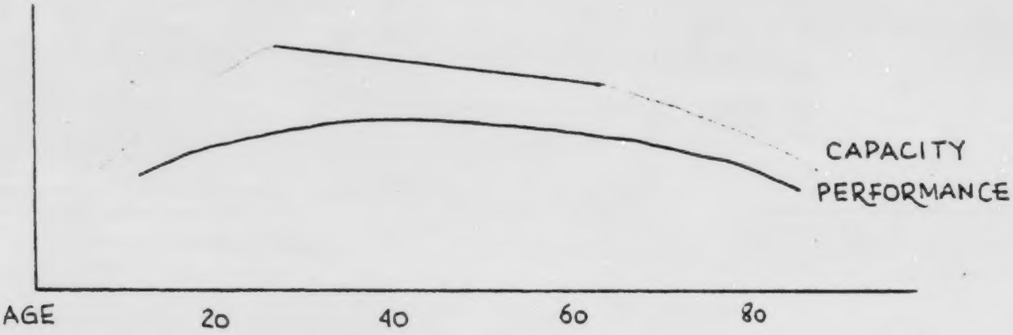
---

[51] Alan B. Knox, Adult Development and Learning - A Handbook on Individual Growth and Competence in the Adult Years for Education and the Helping Professions, Jossey-Bass, Inc., San Francisco, 1977. Robert G. Norris, Characteristics of Adults that Facilitate and/or Interfere with Learning, Florida State University, Dept of Post-Secondary Education, 1977. H. Sorenson, "Adult Age as a Factory in Learning", Journal Ed.Psych. Vol.21, 1930, pp. 451-59.

[52] Knox, p.286

The timing of exposure to visuals becomes increasingly important when it is recognized that adults are dealing with an over-stimulating environment. This means two things: firstly, the students' attention spans may well be reduced as a result both of age and of the expectation of constantly changing environments, and secondly, they will be accustomed to blotting out some of the stimuli. Visuals must get around this by being eye-catching and relevant, and adults are greatly helped by an understanding of the objectives, by suggestions on what to look for, and by questioning.[53]

All of this means that adults frequently achieve below their potential, and a failure to respond or succeed should not necessarily be interpreted as the result of lack of ability.



[54]

---

[53] R. G. Norris, pp. 5-6; Eugene Spaleny and Jaroslav Peprnik, "Foreign Language Teaching Picture as an Organized System", International Review of Applied Ling. in Lang. Tchg. Vol. 4, Nov. 1967 pp. 171-183

[54] Knox, p.414

Adult learners who have had some educational achievement will find the new learning situation easier to accept. Similarly those with some learning experiences in their background will face a delayed declined and a more sustained plateau of achievement. However, the interference presented by a visual environment and by the outside responsibilities which are part of adult life, may still represent a barrier to learning which must be overcome.[55]

There are, in spite of these problems, considerable advantages in teaching adults and in using visuals. Adults are highly motivated. They know what they expect from their lives, and they tend to be settled and mature. They are prepared to learn and often know their own educational requirements very well. Indeed, their learning reactions are dictated by their motivation, which includes features of their sense of self-esteem, their perception of the value of education, what they expect from it and its relevance to their needs. They are no longer participating in education because they are obliged to but because they want to achieve something.[56]

Adults certainly do learn from visuals, especially when these are related to the real world and to the students' immediate concerns. Perhaps the major reason for this is adults can handle the increase in information which visuals entail. They have more experience with which to interpret visuals aids, more referents to which to attach concepts, and normally exhibit more learning modes than children.[57] Many are accustomed to visual learning and enjoy the change in learning format. Teachers, in taking advantage of this, have only to keep in mind that relevance is vital and motivation will fall away if students feel their aims are not being met by the course, the teacher and the materials.[58]

---

[55] Norris, pp 6-8; Lindsay, "Resistances", pp. 186-86

[56] Norris, ibid; Lindsay, ibid; Spaleny and Peprnik, P·179. Knox, p. 417-19.

Clearly more work is needed in this field, not in the generalities of visuals and adults but in specific areas such as have been investigated in regard to children. While some hypotheses can be extrapolated from these latter results, and while it is true that adult studies are increasing, more research is needed.

---

[57] Gropper, "Learning from Visuals", 1966, pp.12-13

[58] Lindsay, "Resistances", p.186

CHAPTER III

THE VISUALS AND THEIR APPLICATION[1]

The materials encompassed by this thesis involve both pure visuals and those which are intended to be part of a game. Few teachers deny the usefulness of games in the teaching of English, or of many other subjects. There have been many assessments and many collections of games, and nameless numbers of teachers will continue to invent further creative exercises. The visuals here are often included in games also; perhaps the difference is only that visuals, rather than words, are the major part of this approach.

Following is the methodology for using and applying the visuals. These are on paper only because the absence of any mechanical aids in the school where they are being used requires this; there is, however, no reason why they should not be on transparencies for an overhead projector. The visuals described may be grouped under one or other of the four skills plus grammar, but a good many of them may be useful in more than one way.

---

[1] Some of these were created by the author. This is not to say that others have not had similar ideas. The train, for example, though it bears some resemblance to the cuisinaire system, was made before the writer had heard of that approach.

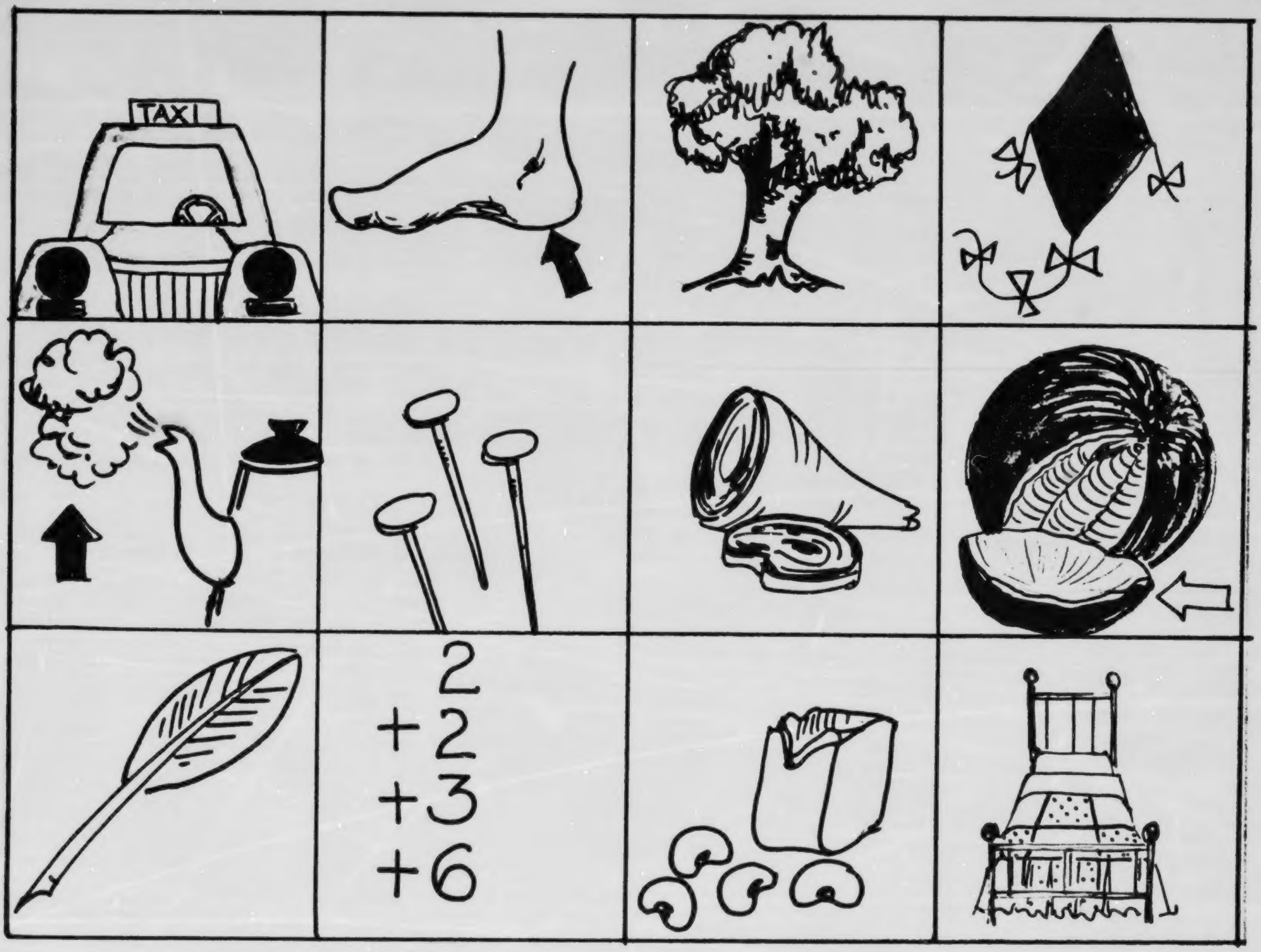
There is no significance in the order in which the skills are listed here except that listening and speaking, which are crucial for the new migrant, are given first. The order in which the skills are utilized may vary from subject to subject. Similarly, the division of the visuals among the skills is also arbitrary. It reflects no more than the author's suggestions for their primary application.

LISTENING

(a) Minimal Pairs Bingo /Figure 1/

These sheets can be created as individualized for the problems encountered by each specific mother tongue. Bingo sheets should contain clear and simple pictures, and each sheet should have only one of a difficult pair of words. The student is provided with blank pieces of card or with cards having the words printed on them; if kept together they could be used for alphabetical order practice. As the teacher calls out a word, the students cover that word if it appears on their sheets. When a card is finished the teacher checks to ensure that the words have been heard correctly.

This can be used as a follow-up exercise after practising the sounds and it thus reinforces work already attempted. Such practice becomes important when dealing with minimally-paired words for which the context supplies



cap meat bed tree nail peel

steam cab tray pill pen mitt

etc.

FIGURE 1.

no clues, such as shin/chin. A useful teacher's text to supplement this work is Pronunciation Contrasts in English, by Don L. F. Nilsen and Alleen Pace Nilson.[2]

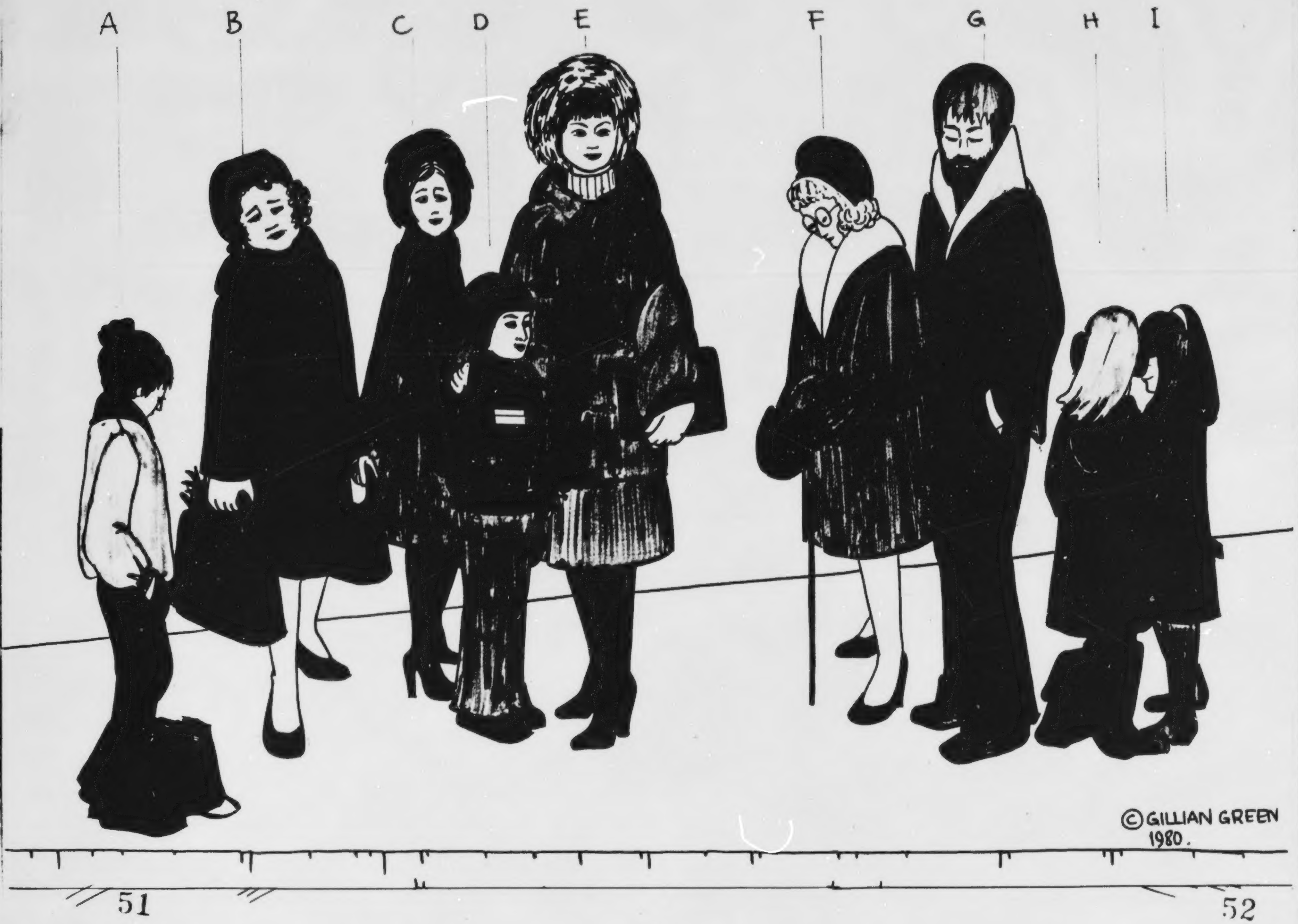
(b) Who is it? /Figure 2/

An illustration of a number of people is shown. It can be in any context; this example was of a group of people waiting for a bus. The group can be as small or as large as the situation demands, but the recognition of too much information must always be kept to the fore. Too many figures, too much detail will inhibit the students' ability to absorb all the information.

Each of the figures has a number or letter above to allow rapid identification while the students hear a taped segment related to the pictorial. In the beginning it is probable advisable to use simple descriptions. This can introduce the class to descriptive speech and the relationship of adjectivals to the nominals. Adjectivals of size, colour and age would also be an aspect of this, and the patterns could be discussed. It might be advisable in the first tape heard to avoid too many contractions and blends, leaving them for a later tape. Students could be provided with a sheet such as the following, which reduces their need to write as well as listen.

---

[2] Nilsen, Don L. F, and Nilsen, Alleen Pace, Pronunciation Contrasts in English, Regents Publishing Company, New York, 1973.


A
B
C
D
E
F
G
H
I
51
52

©GILLIAN GREEN
1980.

"Match the name to the person as you listen. Each name has a number next to it and each figure in the diagram has a letter. Place just the number next to the letter as you decide which person has which name.

A ______

B ______

C ______

D ______

E ______

F ______

G ______

H ______

I ______

1. Susan Martin
2. Jane Steven
3. Mark Booth
4. Eve Shaw
5. Matthew Clark
6. Judith Martin
7. Shirley Fraser
8. June Hayworth
9. Margaret Ash

This exercise could be increased in difficulty by presenting another taped description, this time increasing the speed, including contractions and blends and by varying the phrasing of description. Names could be changed also, and the answer sheet could be as follows:

"Identify by the names given in the tape the people known only by the letters.

A

B

C

D

E

F

G

H

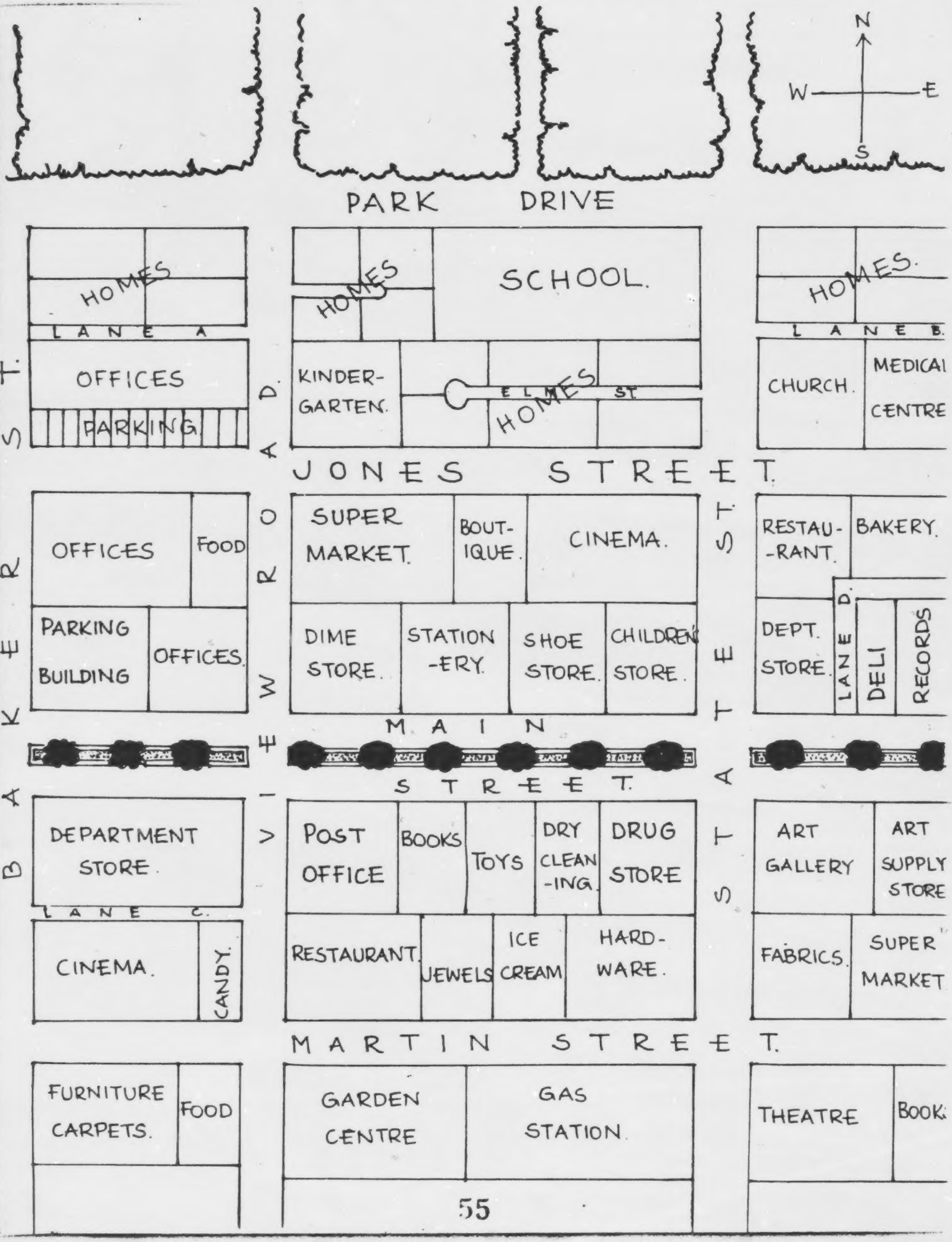
I

Once this has been mastered, students could be presented with taped conversations between two or more of the people, and would be required to identify the speakers. Clues could be in the voices (for example, male or female, young or old), details of appearance, hints about feelings (Woman B, for example, appears tired and is carrying two bags) [see Appendix I for sample tapescripts].

The illustration itself can be used in other ways. For composition, it could prompt short descriptive passages, such as those required by Missing Person bulletins. Or it can lead into writing and performing dialogues, with students pretending to be the people. The visual need not be drawn; it could be a collage of magazine pictures. It need not be a bus queue either - any context for groups of people is sufficient. Indeed, with advanced students a variation of contexts could lead them to recognize the fact, though not necessarily the terminology, of register. They could give some attention to the conversation of people in a baseball park, at the doctor's, at a parent-teacher meeting, and so on.

(c) Where is it? [Figure 3]

Students are given copies of a map similar to the master copy held by the teacher except that the former versions have a number of unidentified sites. By relating those sites to ones already identified, the teacher can get the students to fill in the whole map. For example, the teacher might say, "You are at the supermarket on the corner


N
W
E
S
PARK DRIVE
HOMES
LANE A
OFFICES
PARKING
HOMES
SCHOOL.
KINDER-GARTEN.
ELM ST
HOMES
HOMES.
LANE B.
CHURCH.
MEDICAl
CENTRE
BAKER ST.
VIEW ROAD.
JONES STREET.
OFFICES
FOOD
PARKING BUILDING
OFFICES.
SUPER MARKET.
BOUT-IQUE.
CINEMA.
DIME STORE.
STATION-ERY.
SHOE STORE.
CHILDREN'S STORE.
STATE ST.
RESTAU-RANT.
BAKERY.
LANE D.
DEPT. STORE.
DELI
RECORDS
MAIN STREET.
DEPARTMENT STORE.
LANE C.
CINEMA.
CANDY.
POST OFFICE
BOOKS
TOYS
DRY CLEAN-ING.
DRUG STORE
RESTAURANT.
JEWELS
ICE CREAM
HARD-WARE.
ART GALLERY
ART SUPPLY STORE
FABRICS.
SUPER MARKET
MARTIN STREET.
FURNITURE CARPETS.
FOOD
GARDEN CENTRE
GAS STATION.
THEATRE
BOOK

of Jones Street and View Road. You must meet your friend at the department store on the corner of Main Street and State Street next door to the delicatessen". The students mark this in, and the teacher continues to give instructions, very simple or quite complex, until the whole map is completed.

In the beginning the teacher may give this work him/ herself though it would be feasible to tape it. However, the advantage of the teacher-delivered script is that students can be encouraged to ask for more information or for something to be repeated or reworded, as they might need to do in their everyday lives.

It may also be advisable to ensure that they are fully conversant with the phrases of direction. Phrases such as "next door to", "two doors (blocks) from", "behind", "across from", "diagonally across from", "on the north-east (etc) corner of X and Y", and the like should be placed on the board and the meanings covered.

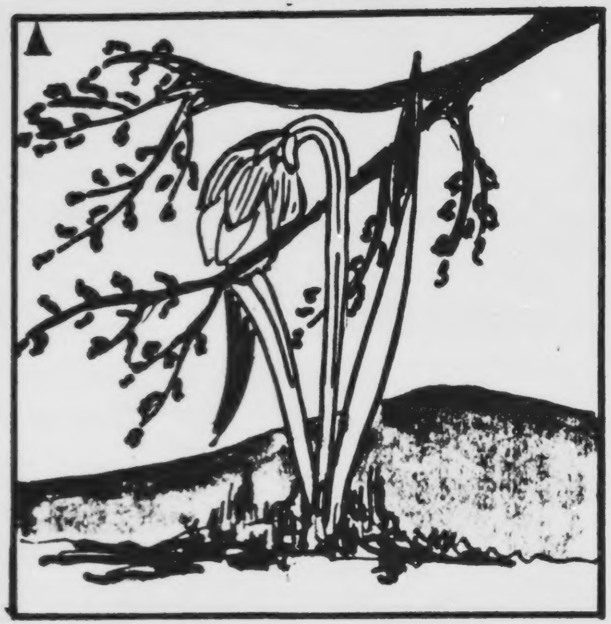
The application of this game to the encouragement of speaking skills is simply a variation. The students themselves do all the explanations, with the blank maps in front of them. Student A asks Student B where a particular store is. Student B makes a choice and describes its position. The rest of the class locates the store and makes the notation, and other students with the added information on the map, take over the task of filling in other gaps.

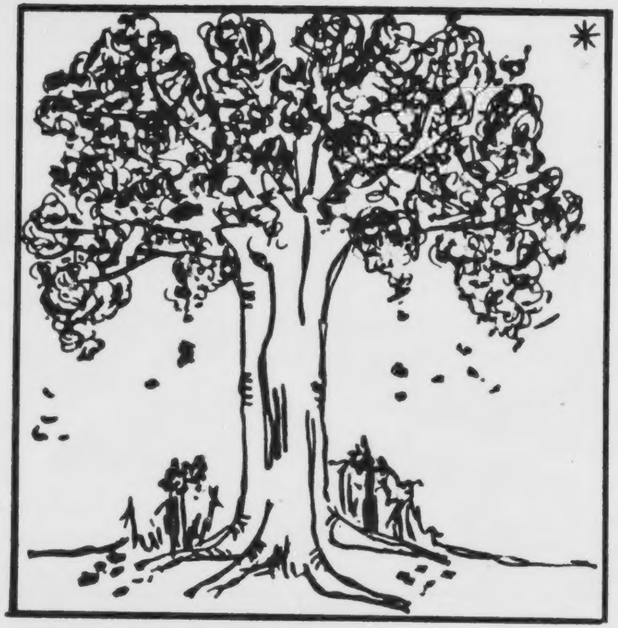
Alternatively, the completed map may be used for direction-giving. One spot is chosen as Site X (for example, the corner of Martin Street and View Road). One student asks how to get to a particular store, or the kindergarten or the medical center, and another gives the directions from Site X. This is useful for teaching the linguistic conventions of asking one's way and interpreting direction information, and clearly it may be accomplished on a larger scale with regular road maps. Bus and subway maps are also effective aids, particularly when they are all combined in an attempt to help students find their way around the city.

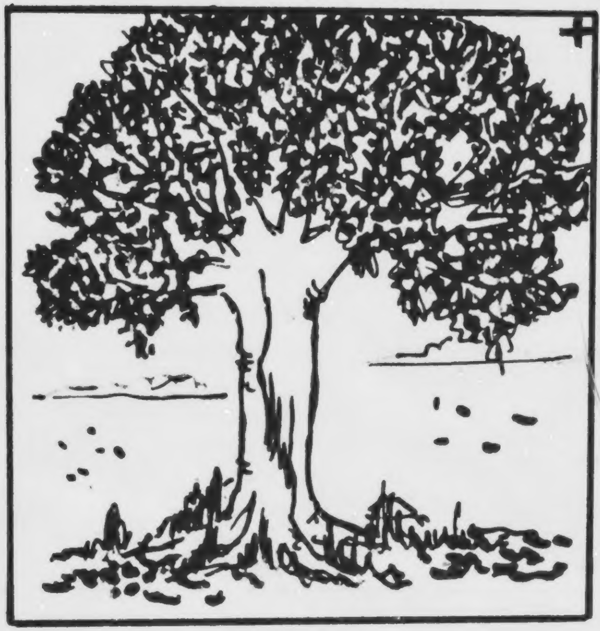
(d) Order! Order! [Figure 4]

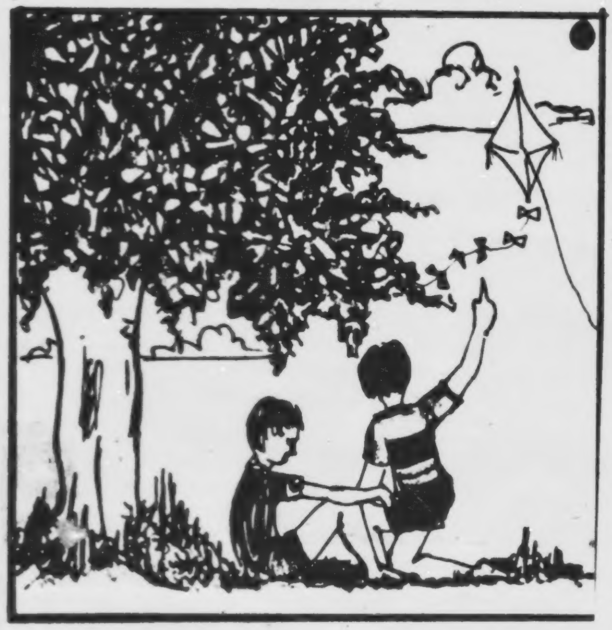
This features a combination of visuals and tape, or of visuals and teacher-read script if tape recorders are unavailable. In this exercise the teacher prepares a series of card sets with perhaps six cards to each set, which should show a sequence of related activities. Each card would carry some form of identification to make checking a simple matter if the teacher keeps his/her own "marksheet". Numbers and letters will be possible if the order is not logical - otherwise students will rely on the identification system. Another way would be a series of visual symbols such as:

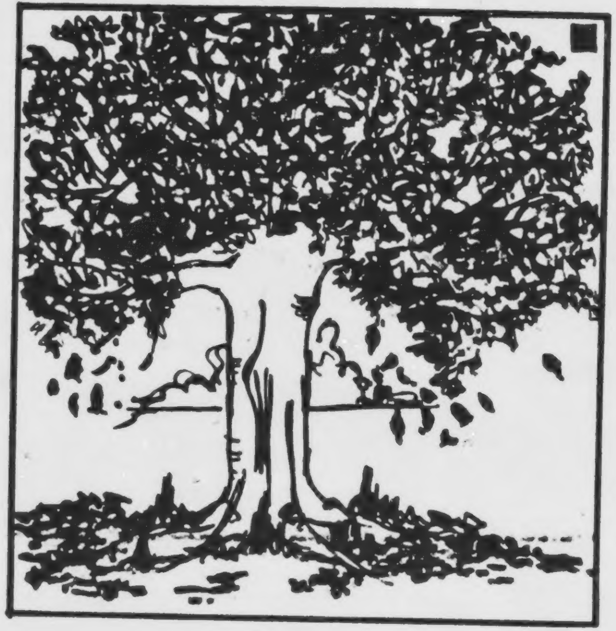
✓ △ ○ □ ✳ ◺

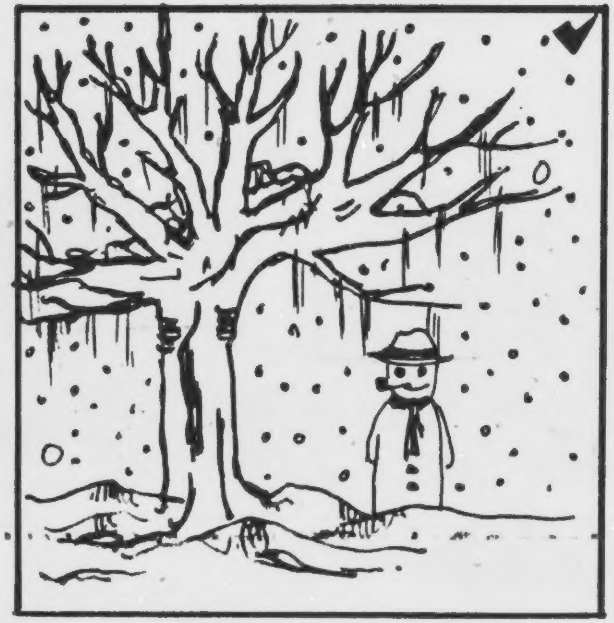












Before the tape is played the cards should be shuffled; then, as the oral overplay is heard, the students order the pictures into the sequence which illustrates the taped script. The pictures may be used a number of ways if more than one script is used; it is useful for illustrating the meaning of the past perfect.

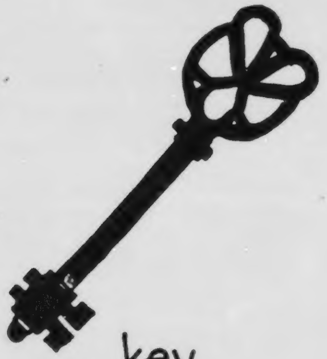
Once again the sets could be used for speaking and writing. The students create their own sequences, for which they are responsible linguistically, and these may be given orally or on paper.

SPEAKING

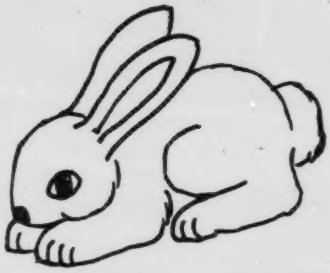
In this area of second language learning, pictures in any form become an important motivational device for both controlled and free conversation. It is usually in this skill that students show the least confidence, yet it is one of the most important in helping students to adjust from one culture to another. Without the ability or confidence to converse, a newcomer will find him/herself particularly isolated. Visuals are useful in providing images which may be described, or extended, or compared. As with the other categories, many of these visuals may be utilised in more than one way.

(a) Animal, Vegetable, Mineral [Figure 5]

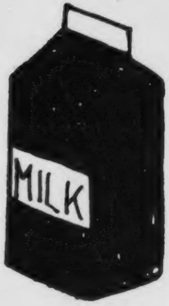
This is simply a visualized form of the old children's



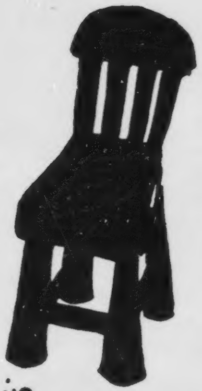
key
(mineral)



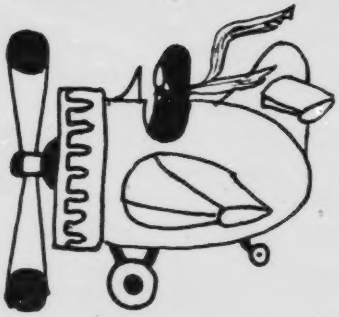
rabbit
(animal)



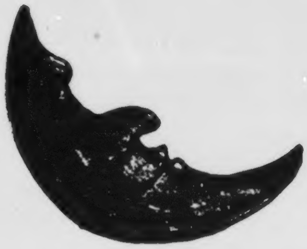
milk
(animal)



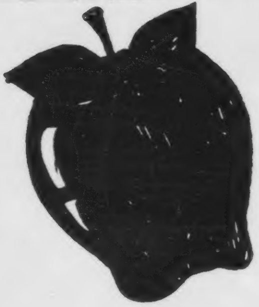
chair
(vegetable)



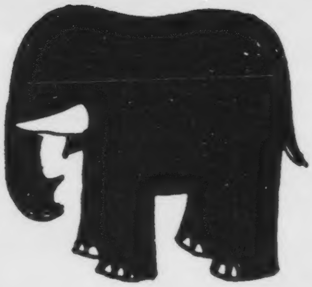
airplane/aeroplane
(mineral)



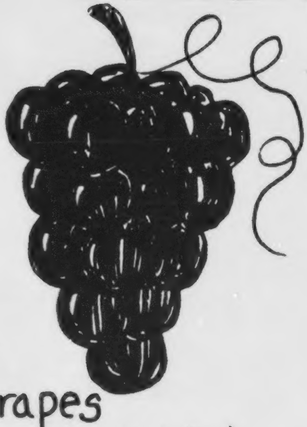
moon
(mineral)



apple
(vegetable)



elephant
(animal)



grapes
(vegetable)

FIGURE 5.

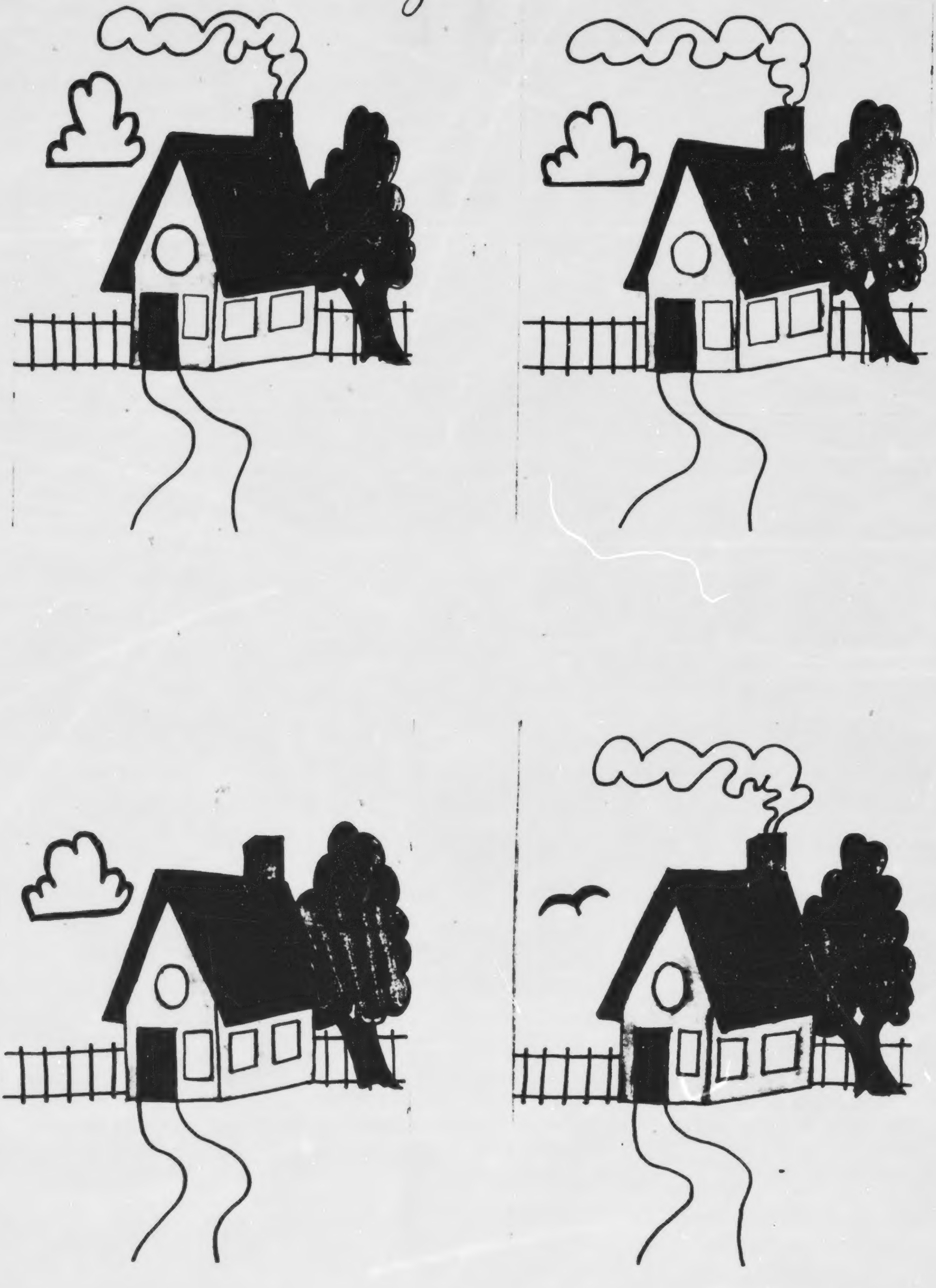
game, and is used to teach the concept of categorizing, something very important to students of English for science. A student comes to the front of the class and chooses a card from the pile which is placed face down. Each of these cards contains a picture, the name of the object and its category. The student gives the class only the category and ensures the face of the card can be seen only by him/herself. The class must guess what the object is within twenty questions using yes/no questions.

(b) Find My Mate /Figure 6/

The visuals here are in groups of four. Within a group, the illustrations are virtually the same but only two are identical. The groups are distributed randomly throughout the class, and the card holders order themselves into groups by describing their pictures. Once they are in groups they must decide which of the four are a matched pair. This must all be accomplished by asking and answering questions; no pictures should be shown until the pairs are found. The process of finding may be in simple, compound or complex sentences, and clearly the cards may be used over and over again. A variation would be simply to have matched pairs, but more work is involved in having sets.

Since the illustrations show a variety of related objects, they could be used to encourage the use of

Figure 6



prepositions: students could be asked to show the relationships between objects. The visuals could also be used to lead into use of conjunctions, where simple descriptive sentences could be joined to make compound constructions.

(c) Spot the Differences [Figure 7]

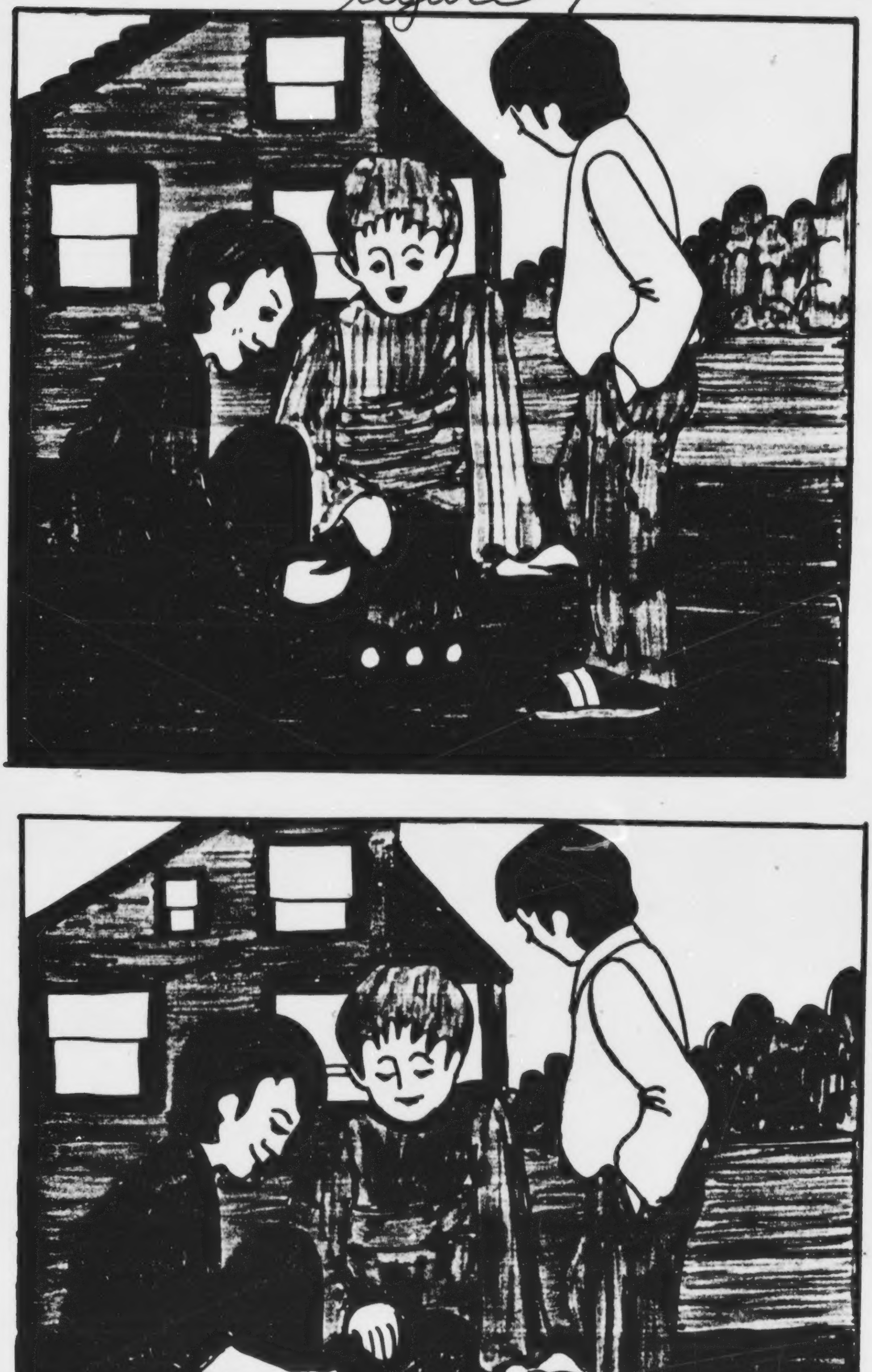
In this game the visuals are based on an old newspaper teaser. The exercise is composed of pairs of pictures, one of which has small changes from the other. The students may work in groups, or individually and a time limit should be set. Within this time students jot down the variations but they should present them orally. The exercise may be used for written work also, particularly of the present tense, though that could be varied also. If the illustrations were placed on transparencies, changes to enable long use could be made more easily.

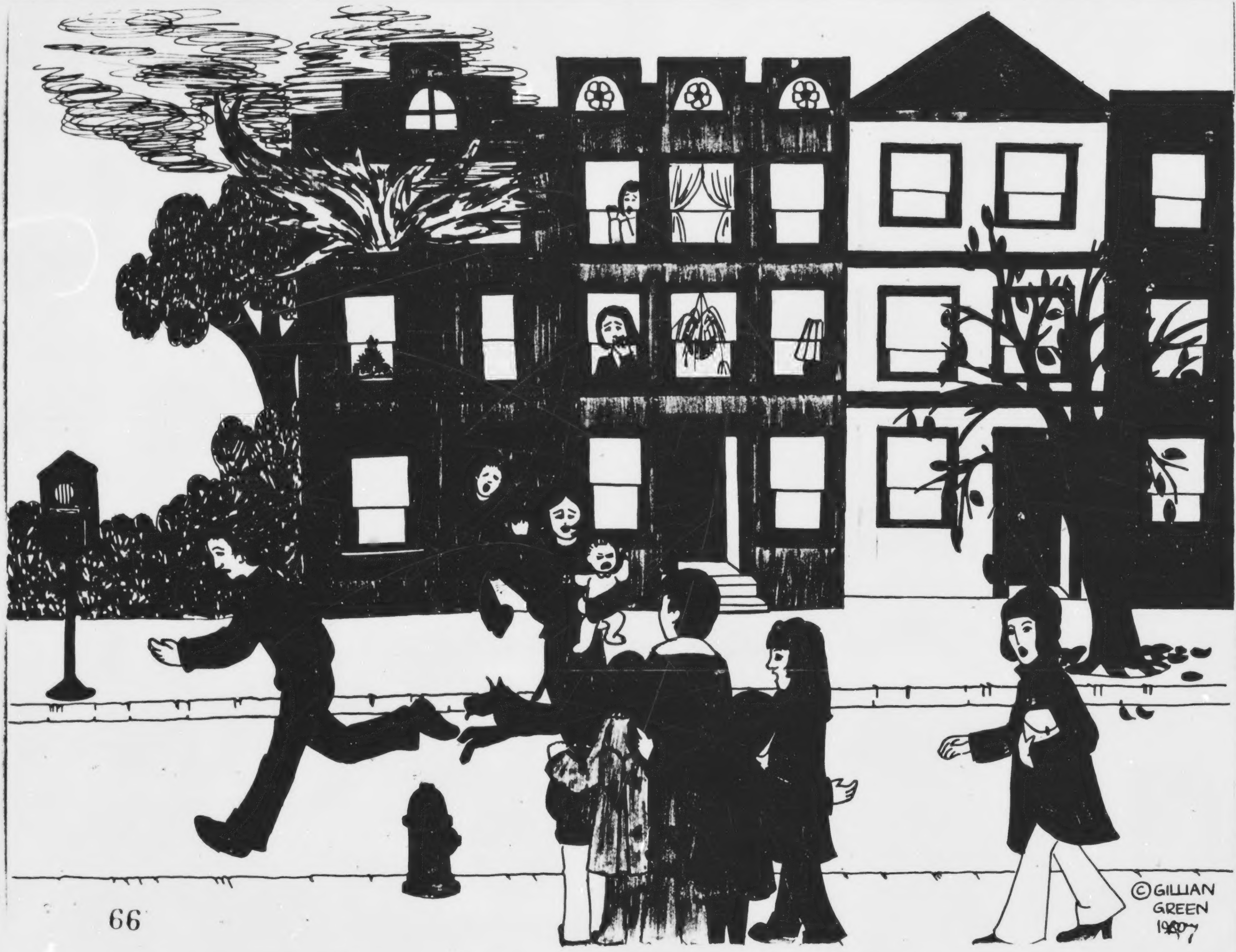
(d) Fire! Fire! [Figure 8]

This visual shows any exciting event; in this case it is a fire in a city block because most people will have seen or heard of a fire, but it could be virtually anything. The only requirement is that the illustration should be full of details which will encourage students to speak.

The teacher asks the students to describe what is happening, and they each respond with a sentence. Similarly, it can be used to practise tenses orally. Students

Figure 7




©GILLIAN
GREEN
1977

are asked

- What is happening now?
- What happened a few minutes ago?
- What will you see when you walk round the corner?

This can also lead into composition work. Students could discuss the ideas present in the illustration, focus on conjunctions or on paragraphs and then write down their description of the visual. Orally or on paper, students are encouraged to respond by having something in front of them to act as a stimulus.

GRAMMAR

A grasp of grammatical niceties is vital because of the impact grammatical structure and patterns have on understanding and understandability. Current teaching methods tend to focus away from formal learning of grammar and structure in favour of the teaching of functional necessities. That decision led to more interesting and useful lessons for the adult student. However, grammar cannot be ignored and certainly requires explanation even if presentation forms change.

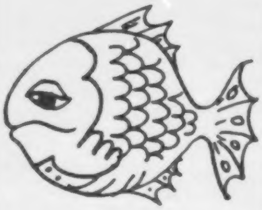
Flash cards have wide application here. They can be used to signal various verb drills or practice; in the following passive-active game, for example, flash cards not only provide the tools of the game but also cue various frameworks - past tense, future, negative or question form and the like.

(a) Passive-Active /Figure 9/

Two sets of cards are made up, one with illustrated nouns, the other with individual verbs shown in both active and passive form. The sets are kept in separate boxes and each student takes a card from each box. He/she then makes up a sentence from the two, the teacher having decided whether it is to be active or passive. The combinations are frequently quite absurd but this concentrates attention upon the structures to be learned and not so much upon the content. Mastery of the passive voice is more important in English for science than it is perhaps in more general forms of English communication, but even in this latter field students will encounter it sooner or later.

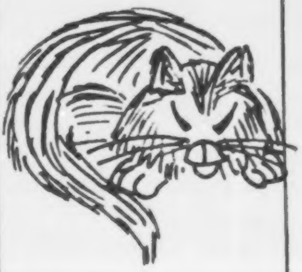
(b) Preposition Games /Figure 10/

One of the areas in which students have difficulty is in the correct use of prepositions. This may be due to the structure's not existing in the mother tongue, or to there being more than one English translation of a first language form, as with the Spanish "en". Many prepositions can be illustrated with simple examples: under, on, in and so on are often best explained with concrete examples, such as a book, and a table with a drawer -



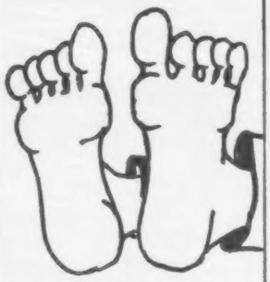
fish

break
broke
broken



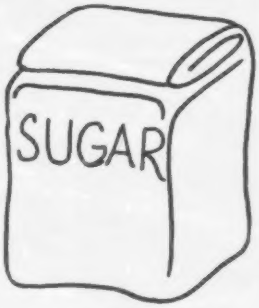
cat

sleep
slept



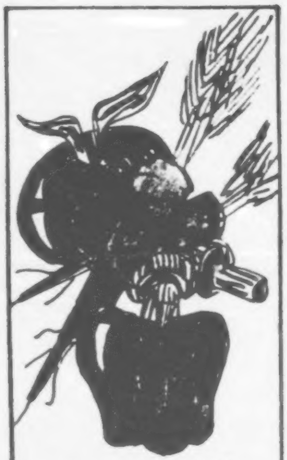
feet

smell
smelled



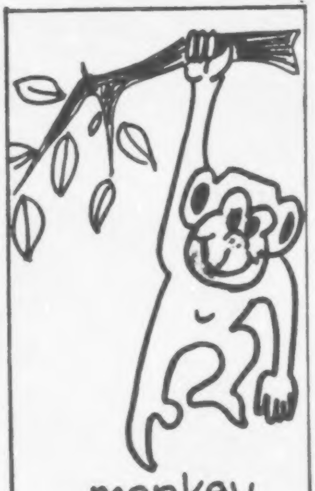
sugar

play
played



vegetables

fall
fell
fallen



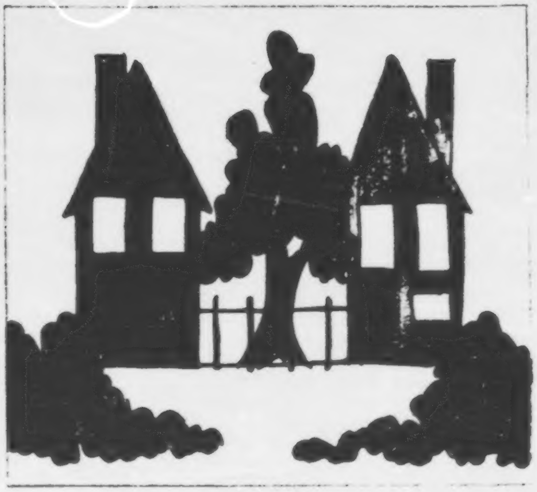
monkey.

future
present
past

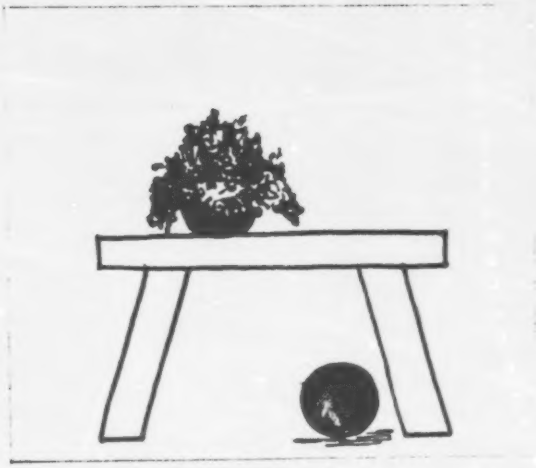
active
passive

FIGURE 8.

Figure 10

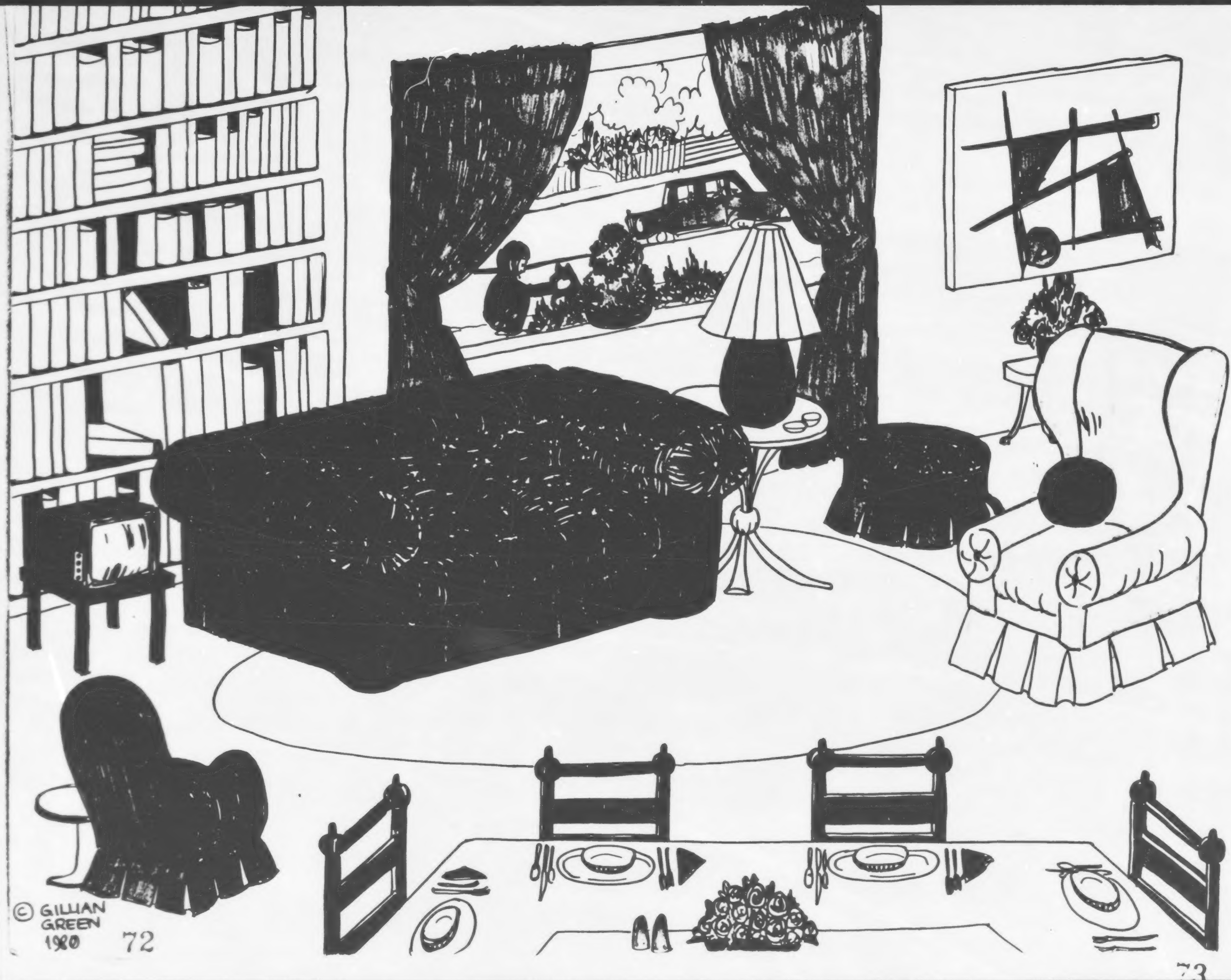


Where is the tree?
Where is the red house?
Where are the bushes?



Where is the ball?

Where is the bowl of flowers?



© GILLIAN
GREEN
1980

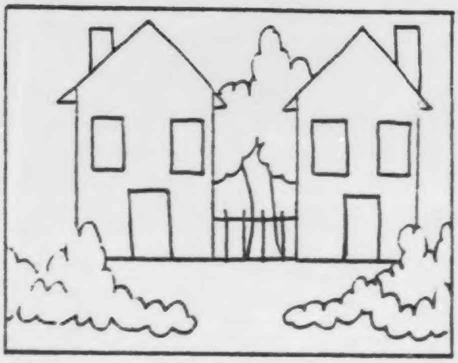
- The book is on (under) the table.

The book is in the drawer.

Some of the others, however, are rather less obvious, and all of them need repetitive work. Drills, though undoubtedly useful in given circumstances, may not inevitably provide the intellectual understanding which is important to adults. Illustrations are a useful aid because they can show a large area "reduced" to a manageable size, and they can be many and varied.

(i) Flash cards: each card has a picture on one side which illustrates prepositional relationships, and questions on the other side which help to elicit the prepositions. This may be an individualized workbox item with the answers on a card at the back of the box; or, with two or more sets of cards, it may be made into a team exercise. With this use, students try to answer as many of the cards as possible within a time limit, and are given the opportunity to get help from each other. Competitive games such as this one work well with adults.

It is important to remember, however, that more than one answer may be feasible to a question. For example, in the following illustration, a question such as "Where is the tree?" it is possible to get:



(a) between the houses

(b) behind the fences

(c) near the houses/close to ...

All of these are sound and help to establish that objects exist in relationship to a number of other objects at one time. Indeed, it should be seen as a positive achievement to get more than one answer.

An extension of this game is one which allows the students to illustrate their understanding of prepositional meanings. This may be done as an individual or small-group exercise using ditto sheets, or one which involves the whole class at once. A large poster-sized illustration is made, similar to the one above, for example, and students come to the board and write sentences which explain the forms within the picture. They may add other details, such as smoke from the chimneys or stick figures and so on. A variation on this is to start with a large piece of felt or flannel and lots of "details" in velcro-backed felt. The teacher may begin by placing a house on the feltboard, and the students add further details, giving the prepositional relationship each time. The prepositions may be provided if the students are not certain of them, or the exercise may be used as reinforcement in which case the students will have to call on their newly acquired knowledge. Once the picture is complete, it could provide the inspiration for writing a short descriptive passage.

Clearly this is chiefly a writing exercise but it is also a tactile experience, where students are required to deal with material, in this case grammatical, in ways which are more than purely passive. They not only encourage attention but provide lengthy exposure for a variety of senses. An exercise like this which is carried out with classmates also ensures that peer learning plays an important part. A game dealing again with prepositions which utilizes these factors of class participation and physical involvement is one which is flash card based. A preposition is written on each of a set of cards which are placed face down in a box. Each student takes one and mimes out the word; the class must identify the preposition and the sentence which explains the mime. Thus if a student takes in and mimes placing a pen in a bag, the class should be led to respond with in and then "She/he put the pen in the bag". If this is made a team game, the competitive spirit increases the fun.

(ii) Pictures: one has been touched upon already - that with the poster or flannel board. This is a pictorial which is useful when the classroom does not provide a large number of amenities, which is a common experience in many

ESL courses which are frequently held in rooms used by other schools and thus not set up for the ESL experience. In this situation the teacher can present the class with a pictorial representation of some situation which offers a good opportunity to use prepositions. In this example it is a room with various pieces of furniture and a large window allowing a view outside. Students could be asked to imagine that they have just walked into the room and are describing it to a friend. Once again, the prepositions could be supplied, or the students could be required to remember them. This could be a written or an oral exercise but in the latter case it might be as well to limit each student to one sentence at a time and to "outlaw" the simpler prepositions after they have been used twice, as students are likely to aim for "in" and "on".

The next exercise can be used for preposition practice but it has other uses. It is useful for reinforcing the "There is/There are" constructions which present difficulties for students from linguistic backgrounds which do not have similar forms. The exercise may also encourage use of certain question structures, as will be seen.

Students are given floor plans of an apartment, squared out to scale, and flat scale models for furniture. Each student "furnishes" his/her apartment, without showing the layout. Then working in pairs, one describes the layout to the other who may ask questions such as

"Do you have a dining table?" "How big is it?" "Where is it?" The described layout is placed on another floor plan, and finally the original is compared with it to see how well the information was transmitted. In order to show how the exercise works, the teacher could plan the first apartment, and get the students to ask the questions.

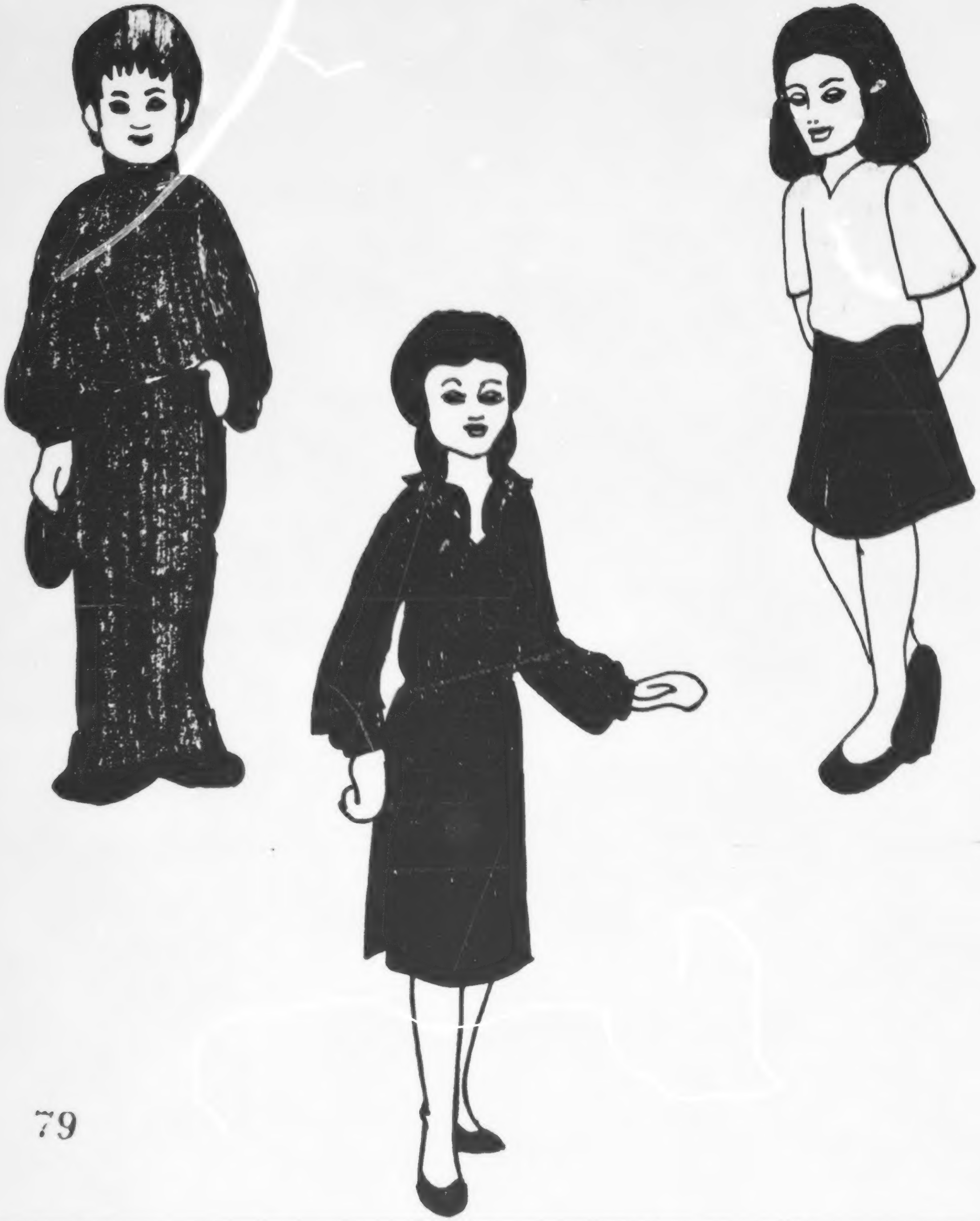
(c) The Article Game /Figure 11/

Students in ESL find any linguistic production daunting. Visuals which provide learning within a controlled context are among the most successful, especially when they encourage production of a feature which may be understood passively but tends to be overlooked in active undertakings. An example of this type of visual is this one using articles. Many students find it difficult to differentiate between the definite and the indefinite articles in usage though they will hear articles used thousands of times a day. Generally what is not understood is the relationship between the two and the tendency to use "the" whenever an article is called for, if one is used at all. This exercise attempts to illustrate this relationship.

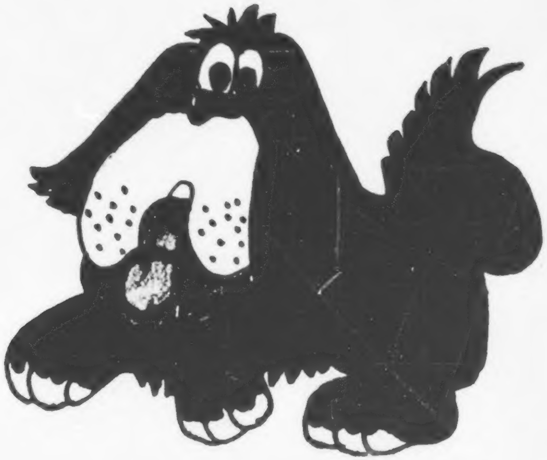
A paragraph is established as the framework, such as the following:

> A girl and a boy were on their way home from school one afternoon. Suddenly the girl noticed a dog, limping sadly towards them. She attempted to catch

Figure 11



79



80

> the dog but it ran behind a fence which surrounded a large house. As the boy darted around the fence to stop the dog, the door of the house opened and a woman came out. She asked the girl what was happening, but the boy answered, explaining that the dog was hurt. The woman thanked them, saying that the dog was hers. She took it with her into the house, and the children continued on their way.

Each of the underlined words is replaced by an illustration, and the students can be led into recognizing the unknown and known quality of articles, and it can lead into an explanation of the use of the definite article in "the door of the house". The first write-out need not have the pronouns; these could be elicited from the students as the piece is read through again, replacing repetitive nouns with pronouns.

This can be extended into a student exercise by providing similar sets of cards for a variety of nominals. These could include pictorials for such things as "Fifth Avenue", "Central Park" and other similar traps. Out of these, students could build their own short paragraphs.

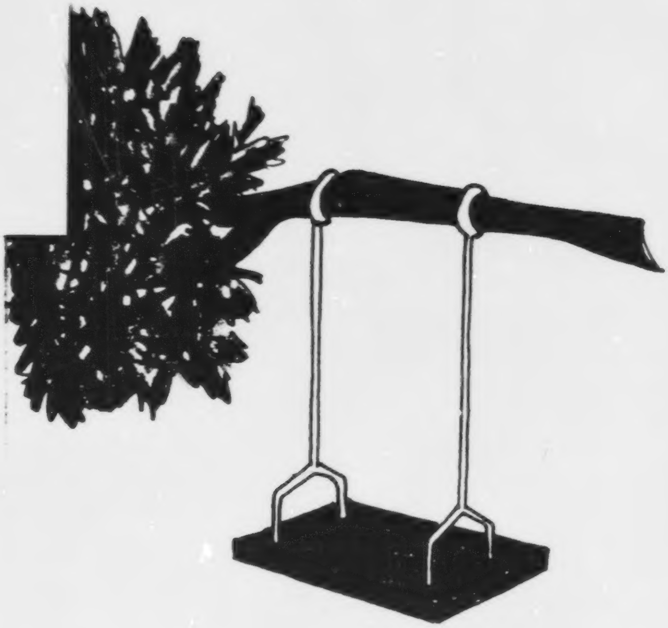
(d) If I were, I would [Figure 12]

This exercise is actually in two parts: one deals with the conditional in the improbable and impossible situations, and the other with the possible conditional.

Figure 12

If I were
a bird, ...

bird



I would swing
in a tree.

swing

If I hurry,

I will be able
to catch the bus.

If you work hard,

you will pass
the test.

In the first, two sets of visuals are placed in separate boxes. Students take one of each set and create a sentence which can be as wild as the students' imaginations suggest; what is being studied is the structure.

In the other, more attention needs to be paid to content as this structure represents possibility. Cards have halves of conditional sentences written on them and students must match them. Some "traps" may be included such as incorrect structures, so that some attention is focused on the mandatory character of conditional sentences.

In the early stages, the cue constructions could be placed on the board and emphasis should be put upon the relationships between the specific clauses and the fact that one clause is mated to another; clauses cannot be randomly combined. Once the patterns

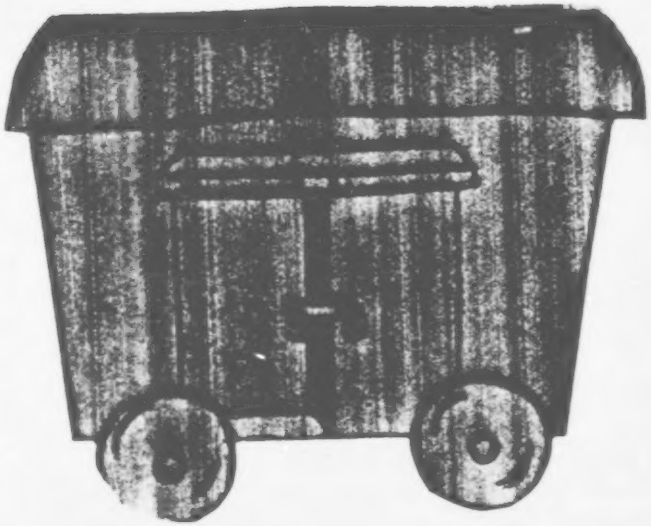
IMPROBABLE	If I ... were,	I ... would
IMPOSSIBLE	If I ... had,	I ... would have
POSSIBLE	If I ...	I ... will

are understood students could be encouraged to attempt the sentence with only cues such as IMPROBABLE or IMPOSSIBLE written on the board or given orally.

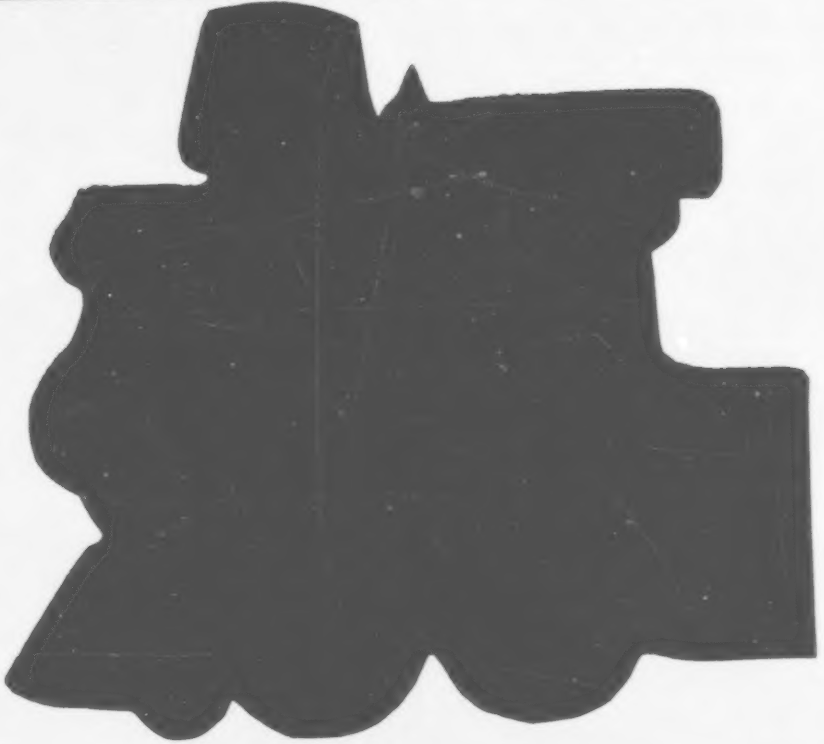
(e) The Train /Figure 13/

This device developed out of a very specific need and was then adapted to more general use. In teaching Thai students English as a foreign language for scientific

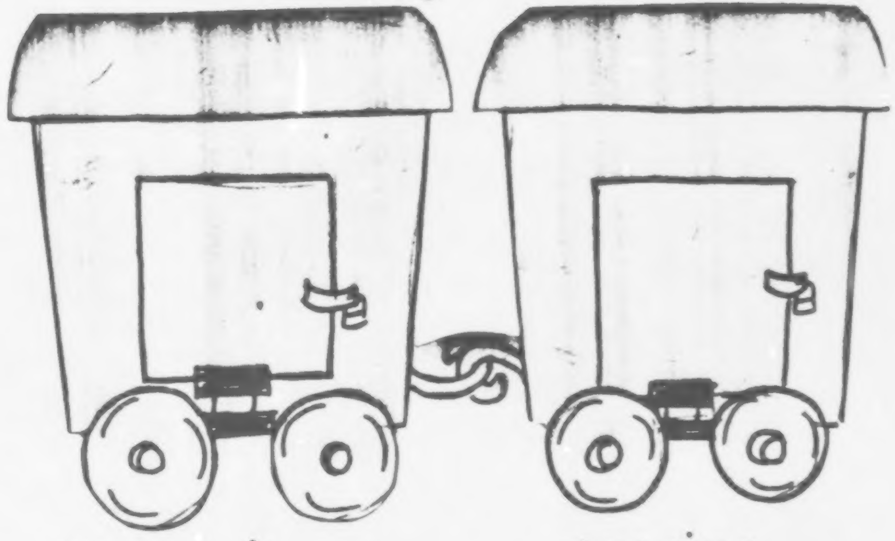
Figure 13



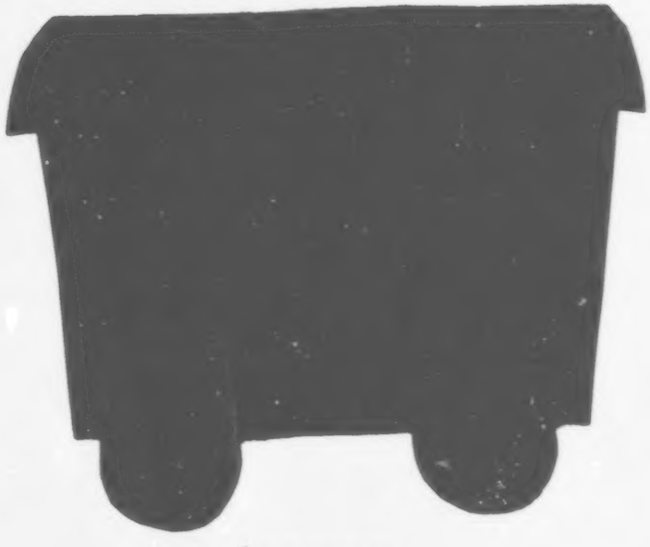
Happy



Susan



is running



home.

purposes, the writer encountered a difficulty explaining the meaning and formation of compound predicates. The idea of the train, with engines and carriages, was useful because trains can shunt as well as pull and the engine thus did not need to be the first word in the sentence. Gradually this was extended; the headword-engine could be preceded or followed by article-carriages, adjectival-carriages or noun-phrase or verb-phrase groups, and so on. A sentence could be analyzed into carriages and engines, and as each function of speech is a different colour, sentence patterns could be seen as colour blocks. The colours are related - the nominals/pronominals, for example, may be red and adjectivals purple; the verbals could be yellow, with a double carriage signifying a "double verbal" construction such as a passive or a past tense form, and adverbials could be orange, and so on, with conjunctions standing out clearly to separate two independent clauses, perhaps in white or black.

If the structure of negatives or questions is to be explained, two verb carriages can be used separately to show the subject - verbal inversion or the auxiliary + negative + verb stem. The train image is useful for showing constructions which have similar meanings but different forms, as for example:

I need a new hat

I need to buy a new hat.

The colour sequences are also effective in illustrating the relationship between nominals and adjectivals, verbals and adverbials, articles and nominals, and so on.[3]

Once again, the students are given the opportunity to handle the material themselves, to move the pieces around in making correct structures. The teacher can make mistakes visible by building the correct form above or below the student's creation. The correction can then be grasped visually as well as aurally.

Clearly in grammar work all kinds of flash cards are useful: cards illustrating time constructions, cards comparing phonological minimal pairs, cards for many "concentration" games, such as for contractions or abbreviations, and so on. Many of these visuals can be used to emphasize other skills; the train, for instance, is effective in grammar work, writing, speaking and a form of "thinking on one's feet".

Because of this cross-skill use, it is difficult to assign many of these visuals to any one skill. The extent to which this has been done here is purely arbitrary and is only in order to describe the visuals. While now dealing with those applied to reading and writing skills, one should refer back to those already covered as many of them are applicable in this field also.

---

[3] An adaptation of this for teaching the blind is also feasible with a variety of surfaces - sandpaper, velvet, towelling, rep, fur and so on.

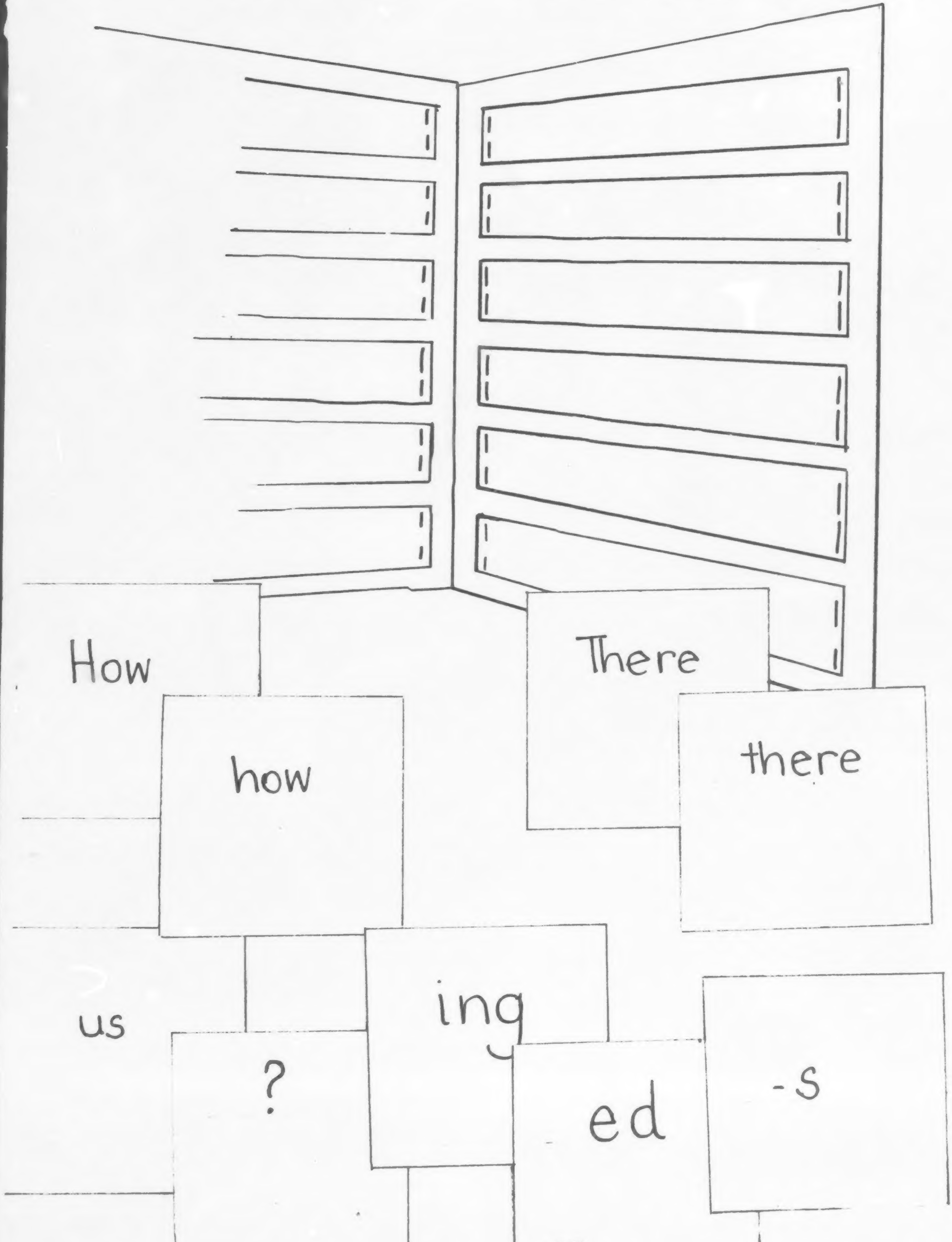
These two skills are discussed together because they are difficult to separate in ESL. Though reading may lead into other aspects such as speaking, writing is often, though not exclusively, the result of something read. In the case of the work here, the response to the reading may be written or oral, though with adults accustomed to a traditional teaching style a teacher may encounter their desire to keep a written record of work learned.

(a) Vocabulary Dredgers

Many students are very unsure in communication skills because they feel either that their vocabulary is too small or that they will forget everything when required to speak. One way of dealing with this very natural fear is to keep a visible list of the words they know and use them frequently by creating a vocabulary folder. /Figure 14/

The folders are made by glueing or stapling strips of paper across each side of a cardboard folder to create shallow pockets inside. As new vocabulary is learned, either in active vocabulary exercises or in accidental meetings with new words in contexts of learning, the student writes the word on a piece of card. All these pieces of card may be kept in an envelope fastened to the back of the folder. Generally students are amazed at the numbers of words they know and this can be a very positive exercise.

The uses of the folder are varied. It can be used


How
There
how
there
us
ing
?
-s
ed

with the train, for instance, in a lesson segment which is silent, the teacher creating visual patterns with the train and the students "transcribing" them into verbal patterns. Punctuation marks, contractions and morphemes such as -s, -'s, -s', -es, -ed, -ing and the like can be included so that conscious recognition of forms and conventions is ensured. Capital forms (which and Which) can be included if that is felt necessary or if the context demands it.

The advantage of this form of writing is that it encourages a student to use his/her own vocabulary, not someone else's. It can help to discourage the tendency among students to use as a crutch the sentence of the student required to speak or write first. Thus, if the first student provides, "I will buy a new bag," the others are likely to change only the object and the teacher gets a great deal of, "I will buy a new book,", or, "I will buy a red pen." In writing exercises the folders and the train can be used together in two ways: firstly by matching the words to the engines and carriages in simple constructions, and secondly as a form of reverse Cloze. The teacher creates a short train-paragraph in which every fifth or sixth word is given. Students then work at replacing the remaining train symbols with words which are before them in their vocabulary folders.

Bringing vocabulary to the fore is a valuable exercise. It is not enough to tell students that their word knowledge is greater than they think; they need to have it proven to them. The use of the folder is one way. Another is to spend five to ten minutes as regularly as the teacher sees fit in a relaxing game of building words from letters. /Figure 15/ The class is divided into a number of teams, depending upon the size of the class, and each team is given an identical set of letters. Although the teacher may have the whole alphabet, it is usually enough if the teams are provided with eight or ten at a time. They need not be provided with all the vowels - in fact, it is better if they are not given more than two. Pairs of vowels could be given in order to reinforce certain constructions such as words with -ee- or -e-consonant-e formations. A time limit is set, secrecy among team members is encouraged, and each team aims to be the one with the most words at the end of the time limit, at which time correct spelling and understanding of the meanings can be checked. Students gain a great deal of confidence from this game, and show considerable excitement about winning or extending their vocabulary from game to game. It appears to be effective in dredging passive vocabulary up into active recognition.

Further extension can be achieved by an antonym and synonym exercise /Figure 16/ Flash cards for this purpose were created with a sentence illustrated by a picture related to it. Any words in the sentence which have antonyms or synonyms are underlined and the learner, on picking a card, must provide either the antonyms or synonyms, whichever

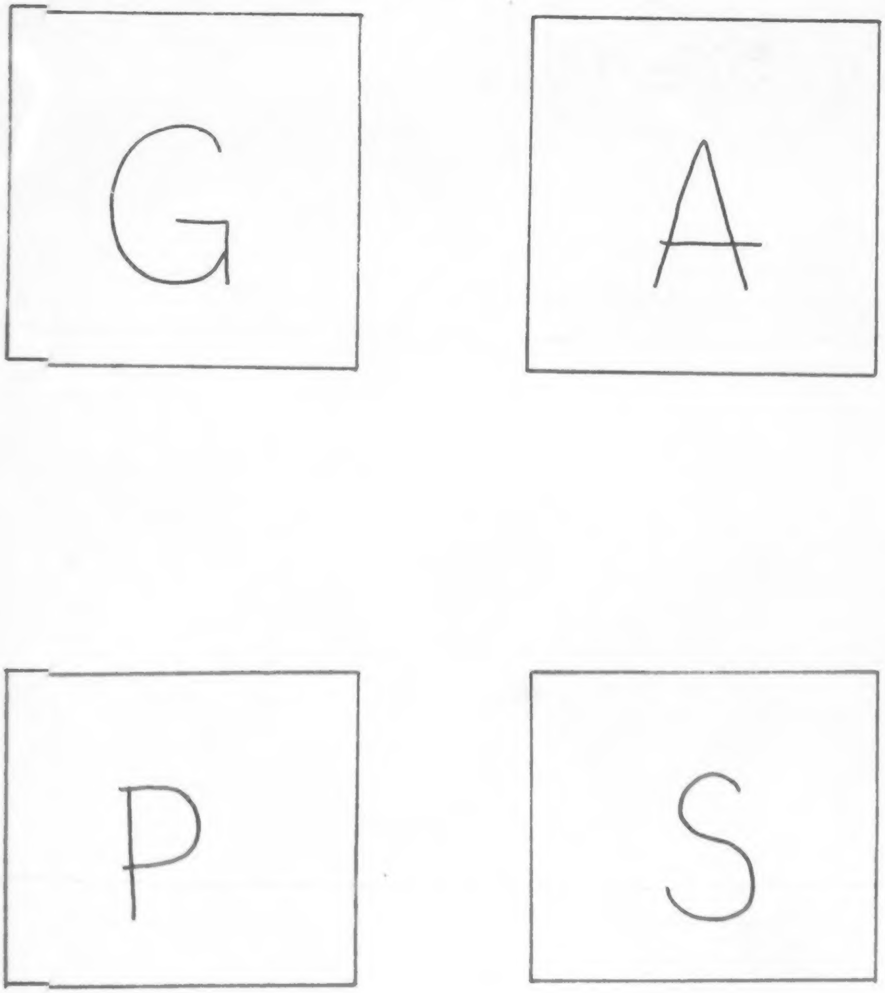
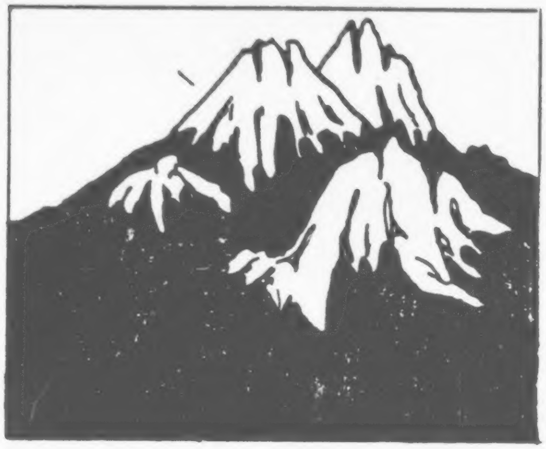
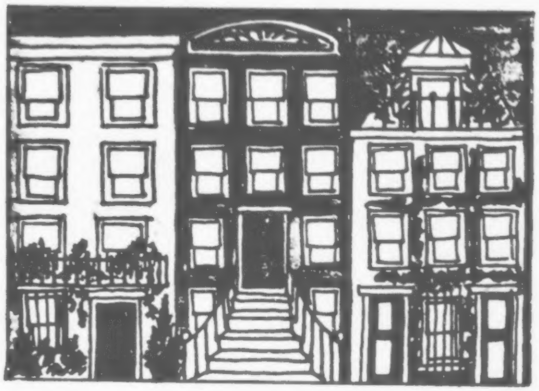


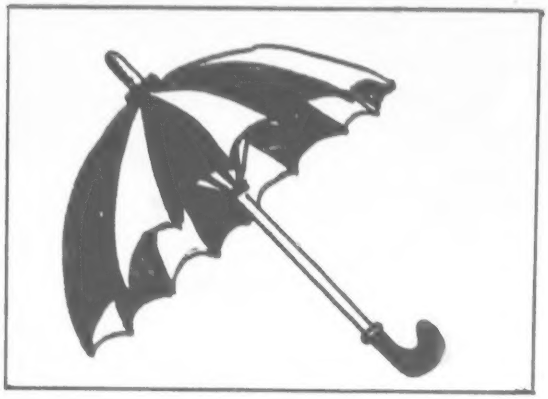
FIGURE 15



High mountains are fun to climb.



My friend's house is close to the city.



He opened his umbrella because it was raining.

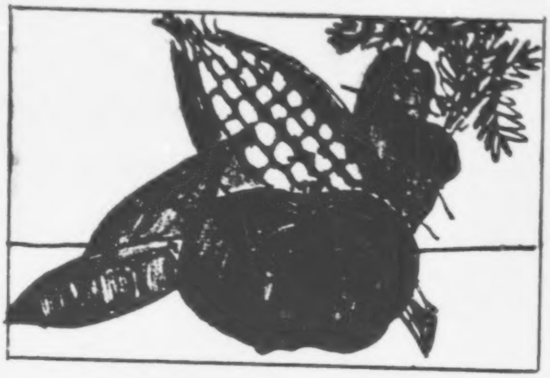
is requested by the teacher. This is often best carried out as a whole class exercise because, though it could be a written project, it gives the class a good opportunity to learn from each other and to discuss their comprehension of some English words and their nuances. The teacher can add cards to the total group, or remove some, depending on his/her assessment of the class's level of attainment.

Reading and writing exercises are many and varied, but writing exercises are often among the most sophisticated. The ability to put coherent and logical thoughts down on paper in a comprehensible form is an advanced skill and is one of the last to be developed. Many adults do not require the skills of technical writing or composition but in classes where this is desirable or where something like business letter writing is being examined, some emphasis must be placed on certain composition skills.

(b) Pronoun Jump /Figure 17/

In their first writing exercises students have a tendency to cling to the subject nominal and its pro-nominal. They create sentences in which the subject remains the same, which presents a tedious reading passage. This exercise attempts to help them recognise that the original sentence may offer other possibilities and emphasis to build upon. The flash cards in this game bear an illustration and a sentence explaining it. Below that are the pronominals

Figure 17



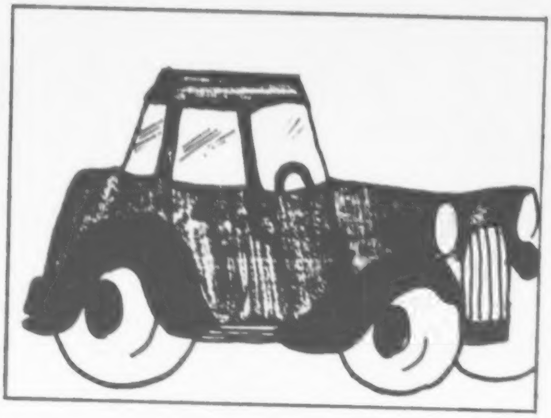
...her...
... it...
...them...

My mother bought vegetables at the shop.

She...

It...

They...



...it...
...him...

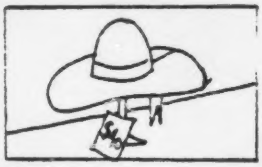
James wants a new car.

It...

He...

for all the nominals now in subject position, and on the back of the card, in object position. The ways in which they are used are various: it may be a multiple rewrite, a grammar exercise, or an attempt at guided writing by extending the original sentence into a short paragraph, which illustrates the related sentence quality of paragraphs.

In the following example, the first sentence could be reconstructed as:



David bought me a new hat.
It ...
He ...
I ...

.. it ..
.. him ..
.. me ..

It was a big yellow hat.
He gave it to me on my birthday.
I loved it.
It was just what I wanted.
I told him that.

This in turn could lead to sentence combining with conjunctions and relative pronouns:

David bought me a new hat which was big and yellow. He gave it to me on my birthday and I loved it because it was just what I wanted, which I told him.

(c) Join! Join! Join! /Figure 18/

Conjunctions represent another aspect of English sentence structure which many students find daunting or confusing. The result is usually an overuse of the word and.

Don't do that.

You'll hurt yourself.

John and Jane may move in May.

They may wait until June

The workers voted to strike.

They walked out of the factory.

They looked carefully in both directions.

They crossed the street.

or

because

and

before

etc.

Some of the difficulties are caused by a misunderstanding of the individual nuances of meaning, such as the casual connexion suggested by because, the negation inherent in but, the time concepts of before, after, while, when and so on. It is the differences that present problems, the fact that one conjunction cannot inevitably replace another. In attempting to explain the roles of the various conjunctions, the teacher could return to the train and have different colored tracks for each clause, such as red/white for the dominant clause and blue/green for the subordinate clause, in a but relationship as one example.[4]

Once the qualities of the major conjunctions are understood, a matching exercise could be attempted. Sentences are written on cards, a pair comprising a set to be joined by a conjunction. The conjunctions are written in a different colour on linking strips, which may be attached to the sentence cards in two ways. One method is to stick velcro dots on each end of both cards and strips; the other is to cut a slot in each end of the cards through which can be fed the strip whose ends may be fastened at the back with velcro. Students are given a time limit in which to match as many cards as possible, perhaps in a competitive game. At the time limit, the creations are examined and discussed to ensure correctness and comprehension of meaning.

---

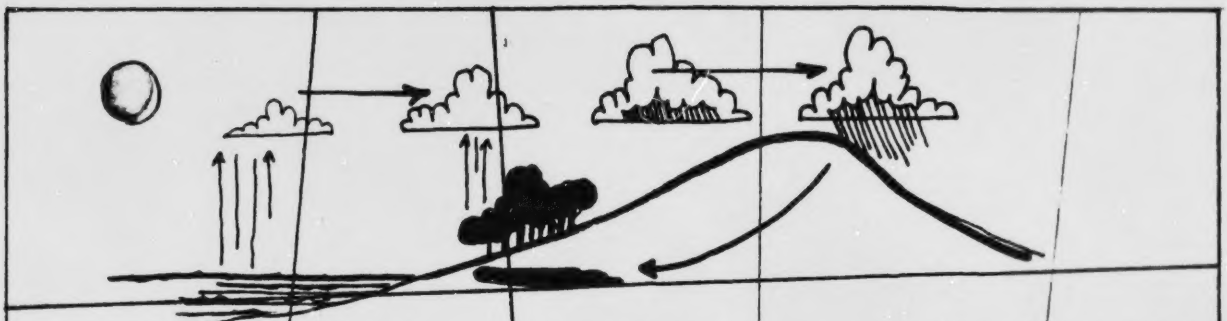
[4] This device can be effective in explaining the structure and meaning of conditional sentences.

(d) Jigsaw /Figure 19/

Comprehension exercises are common for encouraging students to read and these may be presented in a number of ways. In an advanced or well-motivated class students may be keyed to reading for information by giving them some of the questions first and some later. Reading exercises are often regarded as a less strenuous form of learning and frequently are accepted and performed with a minimum of problems. In a class of poor readers, however, the teacher may need to provide reading incentives and to teach to read for sense. One way of helping achieve this is to cut up a reading passage, illustrated or not, into a jigsaw arrangement. All the pieces should be the same shape, perhaps squares, or diamonds and triangles, to avoid the students' using the shapes to cue the reading. In order to put the pieces together accurately the students must read each piece to ensure that it all makes sense. When each student has finished his/her puzzle, the teacher hands out a short comprehension question sheet, and the lesson proceeds as any other comprehension class.

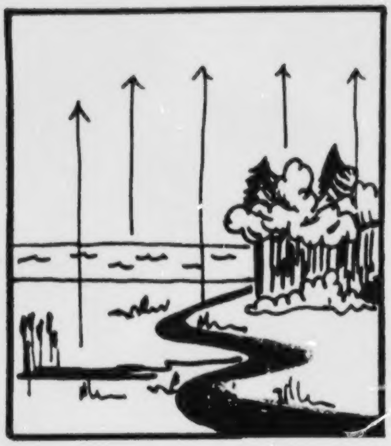
(e) Sentence Match /Figure 20/

Another jigsaw-like lesson is useful for more advanced students who are required to write essays such as ESL students who are concurrently enrolled in university courses. This exercise can use material with which the students are

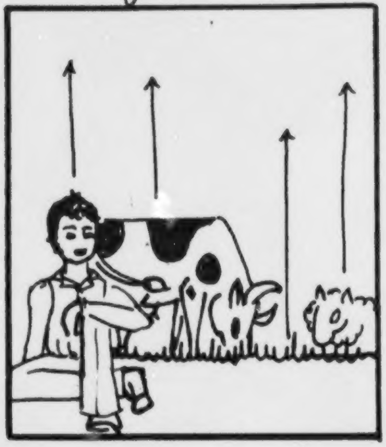


The moisture -ation of water the breathing	in the from rivers, of living	atmosphere is seas, ponds things. Water	produced by th and forests, vapour is light	e evapor- and by er than
air and so it the vapour The process	rises. When condenses and of condensation	the temperature is then seen continues	becomes suffic in the form until the weight	iently low, of clouds. of water
is greater fall to the	than the atmos earth, and we	phere can feel them	support. as rain.	Water drops

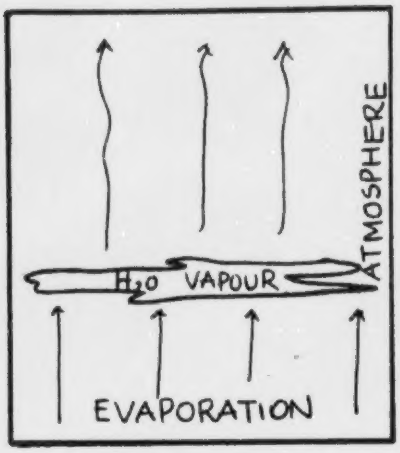
Figure 20



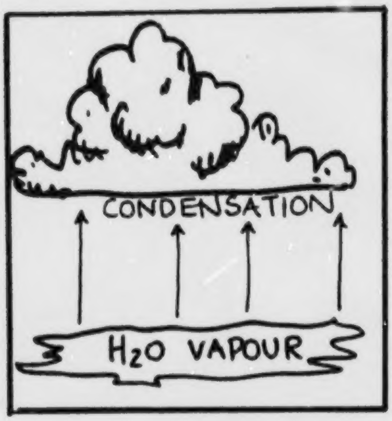
The moisture in the atmosphere is produced by the evaporation of water



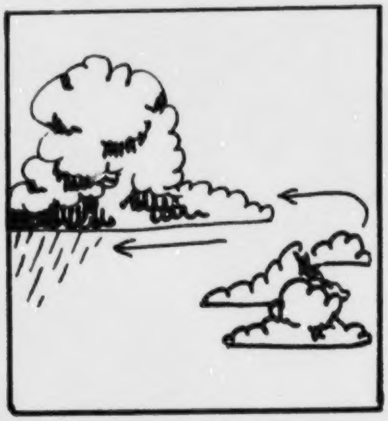
It also results from the breathing of living things


ATMOSPHERE
H_2O VAPOUR
EVAPORATION

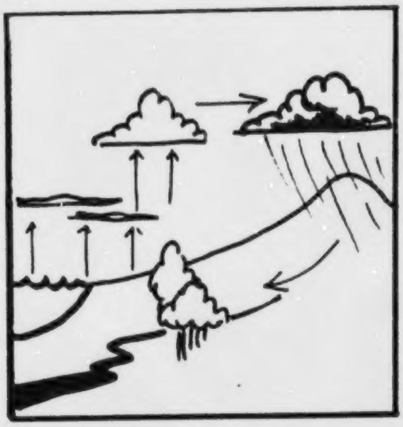
As water vapour is lighter than air, it rises.


CONDENSATION
H_2O VAPOUR

It goes on rising until it condenses.



Then it can be seen in the form of clouds.



The process of condensation goes on until the water falls as rain.

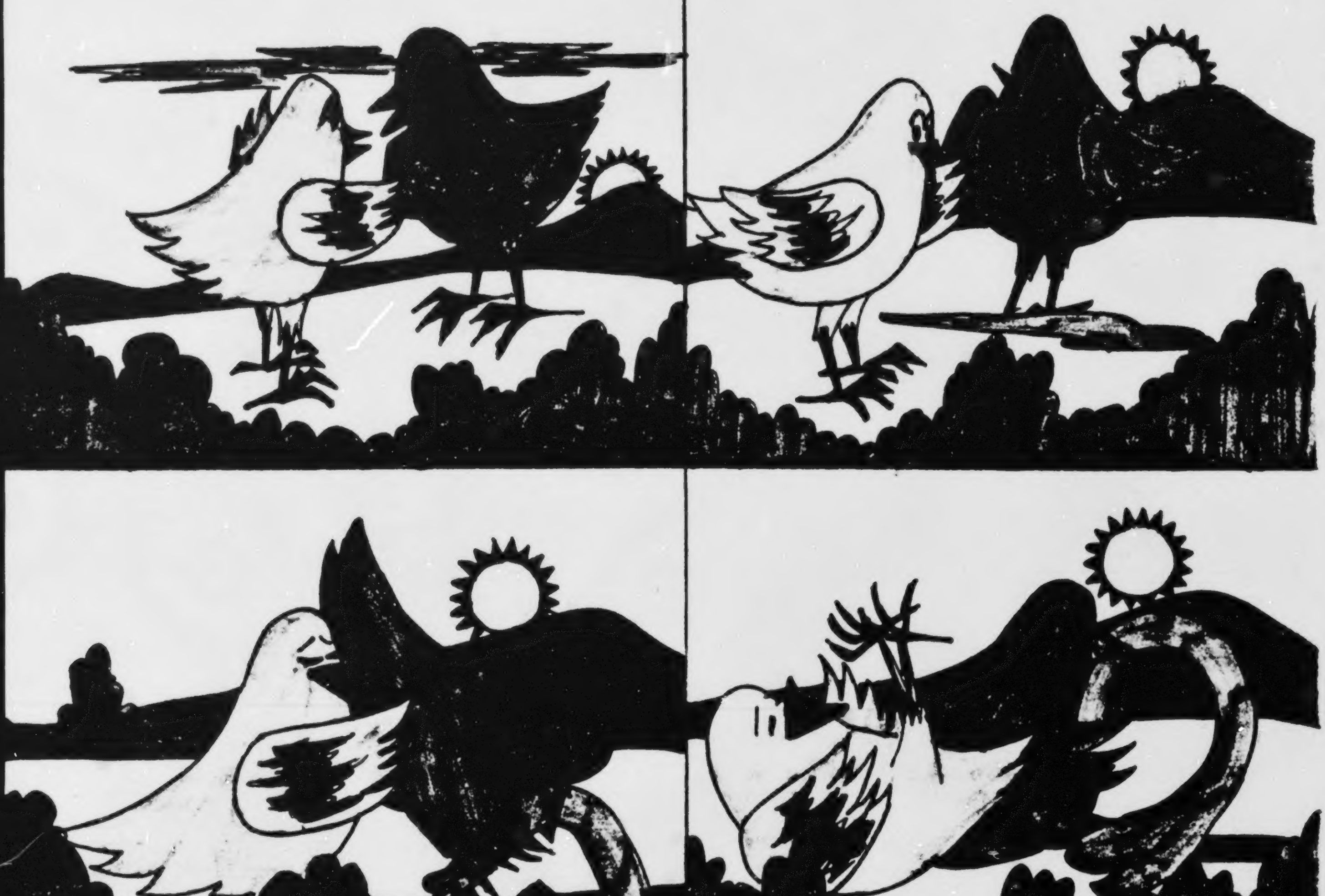
familiar, such as sections from articles or texts in their major fields, or it can be done with imaginative work, for example paragraphs from a ghost story or adventure yarn. A word of warning, however: students from various ethnic and cultural backgrounds may not regard such concerns as the supernatural as casually as is common in Western technical cultures. Care should be taken that a passage used for this exercise does not transgress religious or cultural taboos of students.

The paragraph is divided into its individual sentences each of which is written on a card. In early stages these may be illustrated but with further advanced students this should not be necessary. Each set of cards may be given to a single student or a group to reorder into the correct and logical sequence. Clues such as pronouns and conjunctive adverbs should be recognized. Various types of paragraphs can be dealt with in this way, and related photographs can be used in a similar format to build up a composition.

(f) Composition Cards /Figure 21/

It has become a well-established belief in teaching writing that students perform better in all stages if uncontrolled or unguided composition is not forced upon them too soon. Once students are beyond the stage of tense or person reconstructions they may still require sturdy frameworks upon which to hang their compositional attempts.

Figure 21



This exercise provides the framework but does not supply the verbal materials with which to fill it out.

The teacher gives the students sets of cards, possibly four to six to a set, which illustrate visually a sequence of events. These may be taken from simple fairy stories or they may come from the teacher's imagination.[5] The approaches to their uses may vary also. The teacher may set the order, or the students may establish an order of their own. Cue cards could be used to dictate tense usage, past, present or future, or negative/positive, or to set the composition in a particular time, such as night or afternoon. This could be used together with the vocabulary folder.

These cards have other applications. They could be could be used in tense reconstructions, or for the practice of adverbs of time, and so on. They need not be restricted to hand-drawings by the teacher; cartoons, such as those of Charles Schulz, provide excellent stimuli in this area of learning.

Finally, there are two games which do not fit neatly into any of the prior categories but could be regarded as survival skills games. However, as they can be used to encourage speaking or writing and reading as well as identification achievement, they too can be useful in a variety of ways.

---

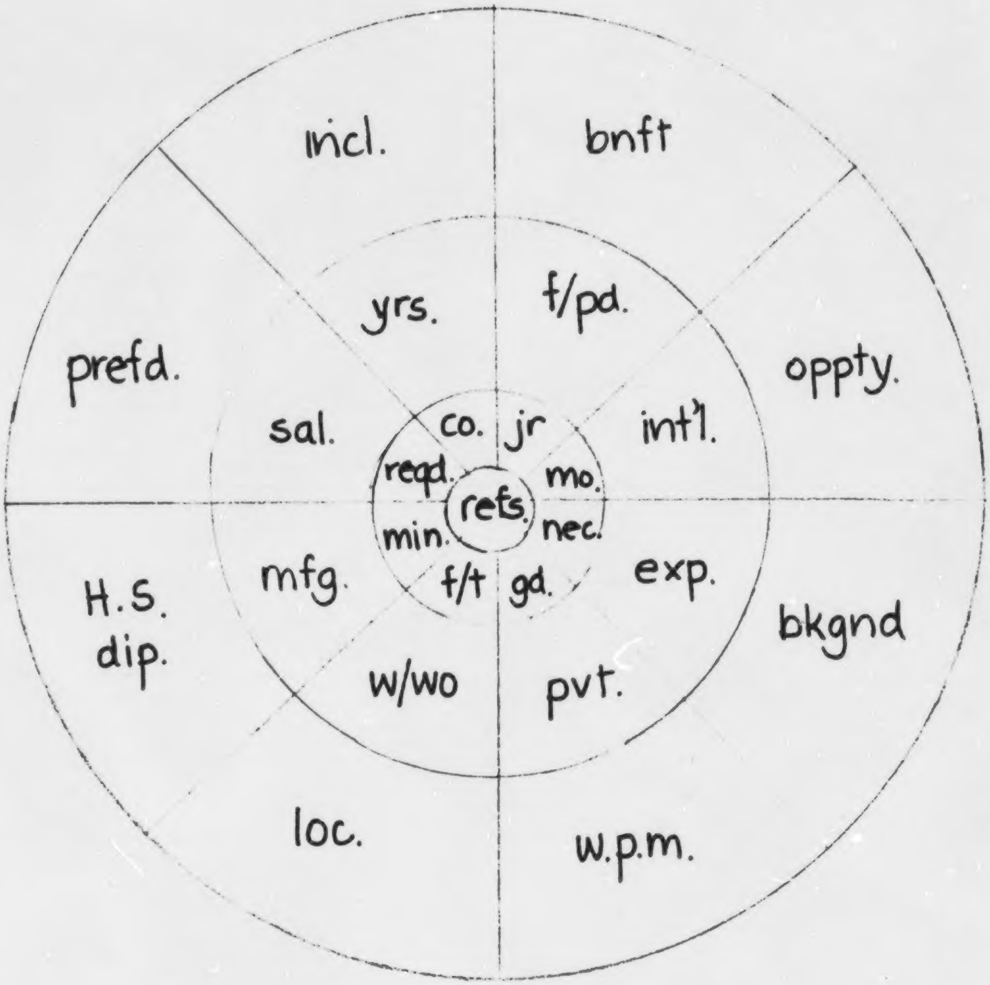
[5] Stories, such as Aesop's Fables, provide a good starting point.

(a) Abbreviations /Figures 22 and 22a/

Abbreviations, such as those used for employment and housing advertisements in newspapers, are often difficult to understand, but this understanding must be achieved if newcomers are to cope with finding themselves homes and jobs. This particular game can be played either before or after the abbreviations are explained, as a cueing device or as reinforcement. A large dart board of felt is made with divisions as they are on an ordinary dart board: instead of numbers, however, each section contains an abbreviation. The students may either use darts, in which case the felt board should be attached to a cork backing, or they may use the round "prickly" balls which are part of a commercial children's dart board game. This may again be a team competition with points being given for correct answers. A variation could be to have the full words on the board and the students must then provide the abbreviations.

A follow-up game to any abbreviations work is that of concentration. Cards are made up in pairs, one being the abbreviated form and the other the word or expression in full. When a full set is completed, they are scattered randomly and face down on a table, and students turn up two cards in a turn. If they do not match they are returned to the table face down. Subsequently if one of a pair matches with one already returned to the table, the student must remember where it was. The game continues until all

Figure 22


incl.
bnft
prefd.
yrs.
f/pd.
oppty.
sal.
co.
jr
int'l.
reqd.
mo.
refs.
min.
nec.
mfg.
f/t
gd.
exp.
H.S. dip.
bkgnd
w/wo
pvt.
loc.
w.p.m.

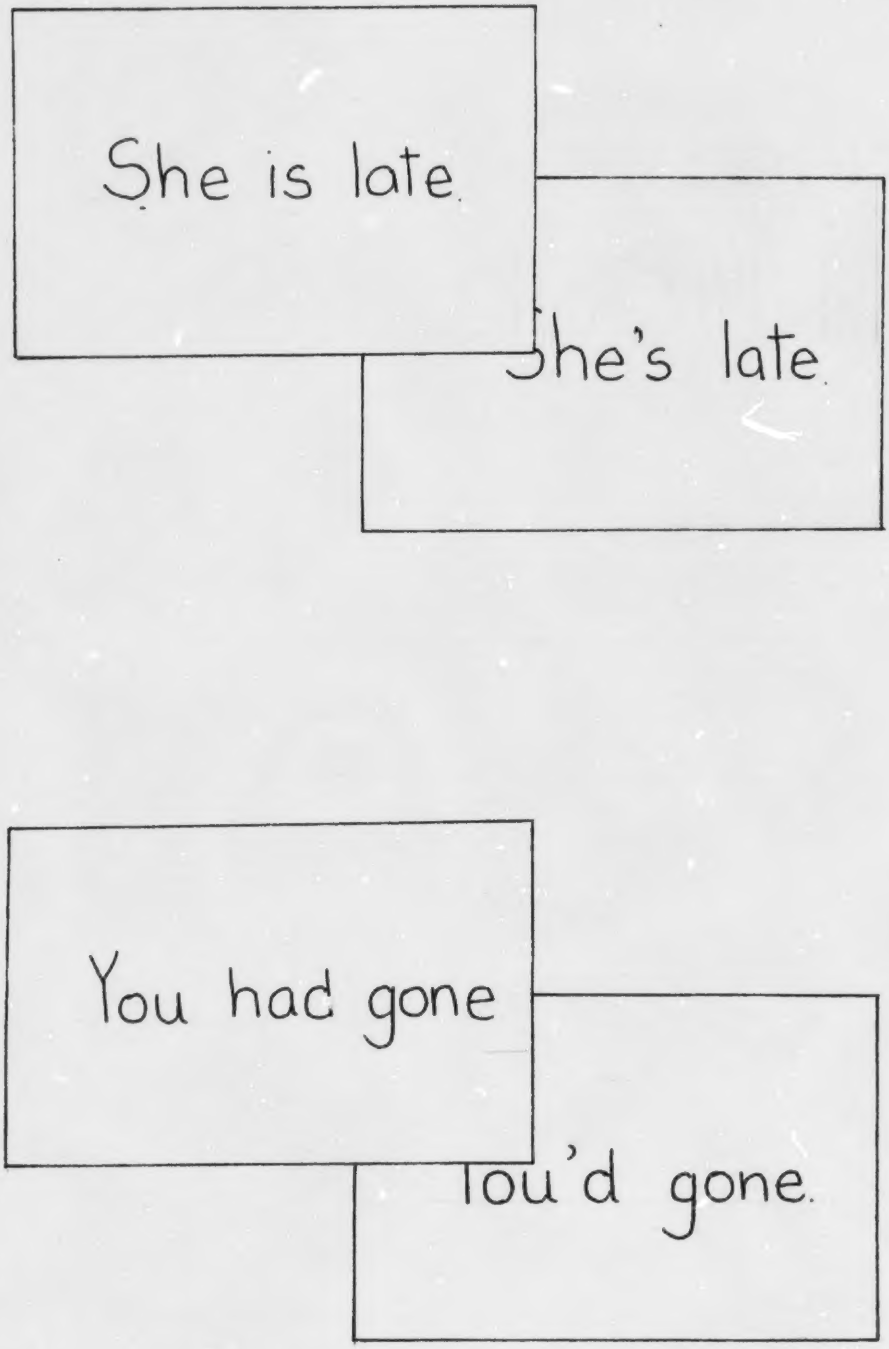

She is late.
She's late.
You had gone
You'd gone.

FIGURE 22a

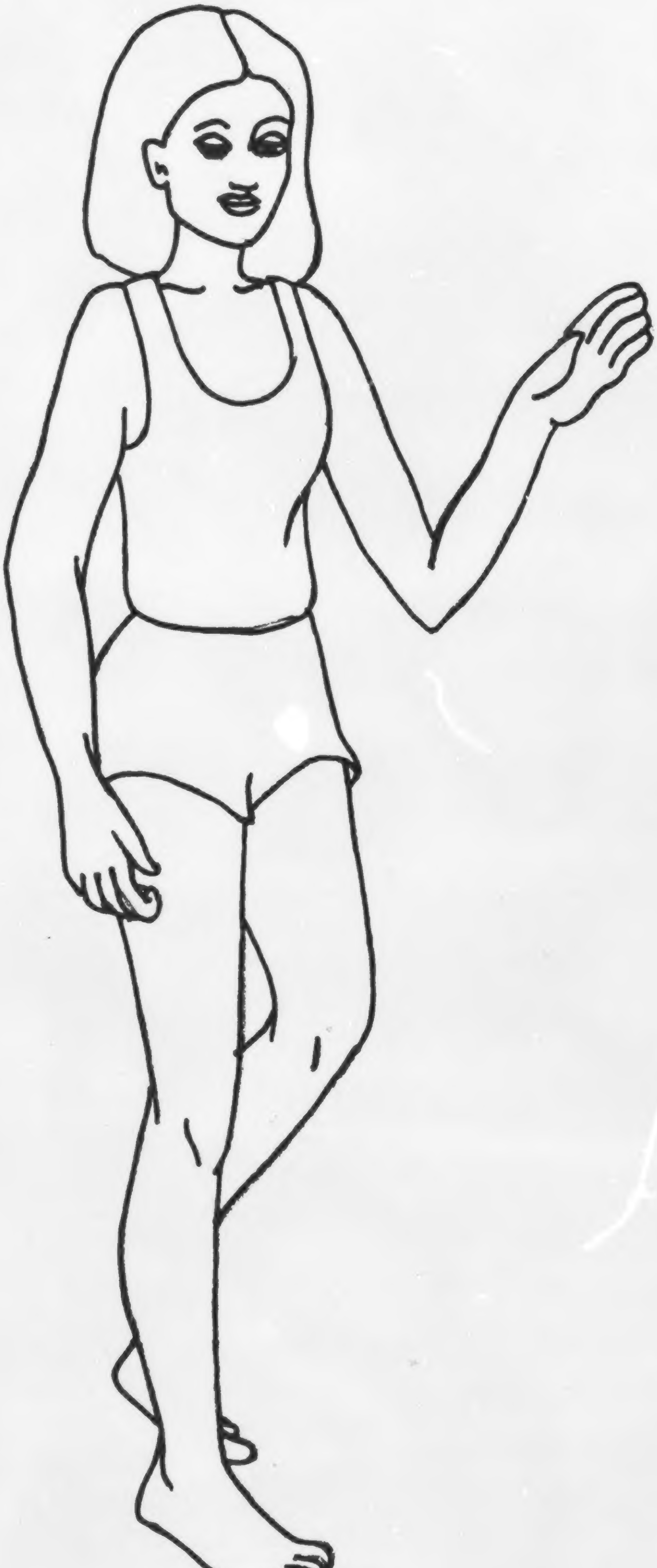
cards have been matched. Once again, this is a good team effort.

(b) Body Parts /Figure 23/

There is an urgent need for students to know the English terms for the parts of their bodies and they will often ask for charts or lessons based on this information. One visual which can be lesson and game in one is to have a drawing, in poster-size, of a human body which can be placed on the board or cut out of felt. Various important parts have numbers. On one side of the board is hung a chart with all the numbers in a column, and in a box on the table are pieces of card with the names of the body parts. The students come up, one by one, take a card, pronounce the word and then put the card next to the appropriate number with tape or a pin. Any which are unknown can be turned over to the whole class to see if anyone knows, or the teacher can explain. The more detailed sections such as the face and hands could become separate identification exercises.

Further examples of visuals and visual exercises will arise as the situations demand, and other teachers probably have others of their own. What is important is that these materials were made cheaply with some, but not excessive, expenditure of time by the teacher. They were an immediate response to situations which arose in the classroom, and represent an attempt to clarify complicated

Figure 23



learning problems. The single example which has the widest application is the train: this can be tied in with many of the other visuals so that one visual image is extended and reinforced by others. The train can provide a consistent framework for reference of structure and patterns, for contrast and comparison, and for productive recoding of newly-learned material.

CHAPTER IV

FIELD-TESTING AND DESIGN IDEAS

As all the materials described in Chapter III were created as a response to a specific classroom need, all have been field-tested. This testing has been with a number of differing groups. One experience was in an EFL situation with groups of first year and of fourth year students in a university devoted exclusively to the sciences. The age groups ranged from 18 to 22 years, and the English being taught was highly structured to enable them to cope with a number of important features of the university's educational structure: the great majority of the textbooks were in English, several of the faculty members spoke only English (not Thai, the native language) and the fact that the international language of science is English. Since this was an EFL situation little in the way of social or survival education was needed or given.

The other class was composed of two groups of Spanish-speaking adults in intermediate ESL courses at a Manhattan Community College. The age range was wide - from 18 to about 50 - and the educational needs and backgrounds were as varied. Some required traditional work to bring their

English skills up to college entry level; others wanted practical English in order to improve their employment potential; still others wanted confidence in conversation skills, and so on. In both classes basic grammatical errors were repaired, survival skills rehearsed and as many of their varied needs as possible were met, or at least approached. It was with these unlikely groups that the materials were used.

All of those which were included in this work were successful and have been used again since. Some adjustments were made in materials with a scientific bent in order to make them less specifically oriented. Some general points, however, need to be kept in mind.

Perhaps the most important factor is that of cultural difference. What is permissible in one culture may not be in another, or may present a student with a situation with which he/she cannot cope. In Asian countries, for example, the spirit world is treated with a considerable amount of respect. To use tales of the supernatural for visual exercise may become a form of interference. Students will shy away from dealing with this kind of information, ashamed to have been presented with it and nervous about facing even drawings of spirits.

Another aspect of this same point is that some exercises and games are not as common in one cultural group as they are in another. The "Concentration" game concept had to be explained to Spanish speakers in a considerable amount of detail before they could grasp the double skills of remembering and matching. Thai students, unaccustomed to games of any kind in a classroom, responded well to visuals and aids, but also needed very precise instructions and a good deal of careful supervision in the early stages. The need to establish early the conventions of games and visuals cannot be over-emphasized.

One of the most interesting results was the effectiveness of aids which could be handled by the student. All the students seemed to learn well from the opportunity to adjust, change and re-form the materials into their own patterns. This is particularly true of the train device, but the response to other such exercises is also noticeable. It may well be that part of this success rests with the opportunity these devices present for moving in the room as well, and leaving the confines of their desks.

There are also aspects in the uses or application of these visuals which need to be considered. Usually it seems better to present many of the visuals described here as reinforcement of material recently acquired, or as part of a visual-aural approach. Experience shows that it can be confusing for students to be faced with unknown material, visual as well as aural, and the "learning from enjoyment" aspect is lost. The train, on the other hand, is part of an explanatory process and is better utilized as a feature of the entire presentation-reinforcement process in the fields when it is applicable.

It is also preferable, except in a few cases, if the teacher avoids providing examples of creative games. Clearly, if students do not understand what is required of them they may need to have the game shown to them, but on the whole, particularly if the game is leading to the formation of sentences, this gambit leads to students copying the form provided by the teacher. The tendency is to rely on the teacher's example in the hope of avoiding mistakes, and it is very hard to remove this crutch from them.

The designing of these visuals is not as difficult as many seem to think, but one should be prepared to change or discard any that do not achieve their goals. After using devices such as these, the results should be evaluated by oral or written testing. The following considerations should be among those kept in mind:

Did the students learn from the visuals?

Did some learn more than others? If so, can you ascertain why?

Is lack of achievement linked to interference such as design factors, or to an overload of information?

Are students making the same kinds of mistakes?

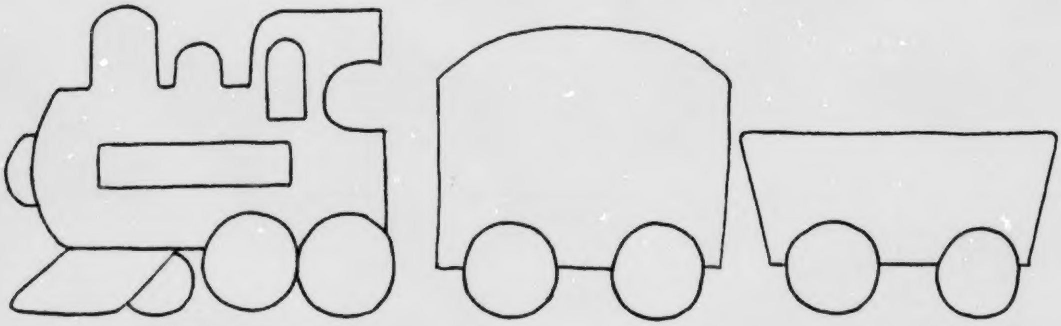
Depending upon the answers to these questions, the teacher should be prepared to redesign. Perhaps one aspect of the illustration is not clear, or some important feature is being missed because of a fault in the design. The problem may be not in the visual itself but in its presentation:

- was its value clear to the students? Adults, in particular, need to be aware of the relevance of aids.
- was it clearly linked to the material being taught?
- were students full aware of what was required of them and did they understand the cultural aspects?

This brings forward a further advantage of visuals made by the teacher. For a mature evaluation of the effectiveness of the devices it is important that a teacher not feel constrained to keep using a visual simply because it was a costly investment. When materials are teacher-made it is not such an expense to reform them or to adapt them to eliminate the limits on their usefulness.

For those who find drawing a problem there are a number of ways of proceeding. Children's books are a good inspiration and can provide illustrations worthy of imitation as they are frequently simple in design. Cartoons are useful for similar reasons. Some other suggestions are given for the creation of the materials used here.

The train does not need to be highly detailed. Indeed, the "prototype" of this one had an engine with a face which had the effect of focusing attention among Thai students because it was unusual. With the Spanish speakers, however, the face was a distraction, possibly because, being more accustomed to visually stimulating educational aids, their eyes were caught by this feature alone as being "cute" and did not absorb the whole image. Since the train carries ideas with it, not visual reality, it may be very simply designed. The engine needs only have funnels and a cabin to differentiate it from the carriages. These can be as simple as boxes on wheels.



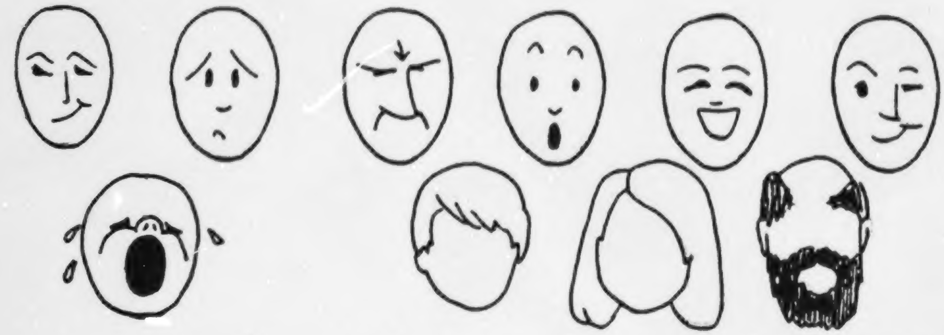
The important factor is the sense of color, and the relationships between sentence parts which the colors illustrate. Multi-color construction paper which can be attached to strong card and then protected by contact paper is one way of making the pieces. The mounting of these so that they are visible to the whole class may be achieved by attaching velcro sections to the backs and using a felt board. By having a good choice of pieces in a box, students can create their own trains.

Magazines provide good resource areas for teachers not confident of their draughting skills. "Who am I" can be successfully created by a collage effect although care must be taken to guard against an excess of information. Similarly, posters or advertisements with written material removed may also function well. The tapes for the visual may be up to the teacher.

The map and the apartment exercises may use real materials, or the teacher may rely on his/her own ideas. The map requires little effort - a series of right angle streets with blocks divided into store sections or housing. An apartment plan may be drawn up on graph paper along with pieces of furniture, or by turning to magazines such as "Better Homes and Gardens" the teacher may find such materials already available.

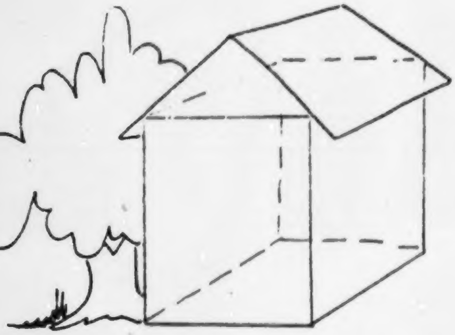
The flash cards could also utilize cutouts, but those exercises which involve searching for differences, such as "Find my mate", will need individually drawn material. However, the teacher is free to imitate material so long as no copyright is infringed by using the visuals outside the immediate classroom.

In drawing people, there are a number of clues: the head should be 1/7 - 1/8 the size of the body, so there should be about 7 - 8 heads in a figure. The legs are about 1½ times as long as the body, and the arms should be long enough to reach about 1/3 of the way down the thigh. Faces can be limited with features showing only basic emotions.



Hair styles need only be aids to sexual identification.

Buildings and houses can be drawn using two squares or oblongs, one overlapping the other. Corresponding corners are linked, and roof, windows and doors added. Perspective causes lines to appear to retreat towards a central point in the background, so they seldom parallel one another, but for the inexperienced artist paralleling may be the easiest way to proceed.



Trees are relatively easy. They also need not be totally realistic. All that is required is that the shape and colour should suggest a tree; its biological identification is not necessary. The same is true of flowers, lawns, clouds, moon, star, sun and so on.

The issues of design are not always easy to explain. It is true that some people see patterns very easily and do not find it difficult to plan them in a visual, but others do not possess this facility. The first thing to decide is what emphasis is to be placed upon the various parts of the illustration. For example, in "Who am I?" emphasis needs to be reasonably equal as the students must be able to view each figure easily and clearly with a minimum of interference from other figures. Therefore the people are spaced evenly with a lot of white around them, but they are linked in two ways: firstly, they appear to be, not in a straight line, but grouped with some behind others, and secondly, the pavement is delineated by one horizontal and one diagonal line. In the "Fire" picture there are very strong horizontals and verticals but there are also "implied diagonals" such as the one which links the fire, the heads of the group in the centre foreground and the woman on the right. The man running on the left is emphasized by being alone but the dog links him with the group. Lines are important not only for what they delineate but for what they suggest. Horizontals give an idea of solidity, verticals hint at strength. Diagonals are dynamic, cutting across the others to create areas of interest where the lines intersect, and are important to the liveliness of the visual. Curved lines suggest movement. Lines can be "aimed" to reinforce the main part of a visual whether or not it is central in the illustration.

Size is also important. If objects are too small, they will not be noticed, but if they are too big they will overshadow others. What must be always kept in mind is the relationships between objects: a man is never bigger than an old oak tree, but if the tree is in the background and the man in the foreground then it may appear that he is bigger. Size can be used in this way to signal emphasis. The largest object will command the most attention, but the teacher must decide the amount of emphasis which is required.

When drawings are less rather than more realistic, color can become an important cue to identification. For example, if a tree is drawn to resemble a tree, the outlines alone can identify it, and it would be possible, if the educational aims demanded it, to color it purple and still have it recognized as a tree. If, however, the tree is simplified to a triangle on top of a cube, it becomes more important to retain the usually accepted colors in order to make clear its identity. Colors have other characteristics: they can appear to advance or recede. Warm colors such as the primaries red and yellow, and the secondary combination, orange, are all warm colors and are among the first noticed. Blue, blue-green and purple are cooler colors and tend to act as background colors. The cause is partly associations and emotional reactions - red for stop, green for go, black for dourness, blue for melancholy, red, white and blue for patriotism and so on, but these may be culturally and individually influenced. However, one thing does appear to be true: strong colors are more effective than weak. Not only are they more attention-getting but students find them more stimulating.

Color, as with the other aspects of design, should be used with care. A visual aid should not be treated simply as the addition of decoration to the classroom. One should always keep in mind just what visuals are for. They are aids to understanding, not ends in themselves. Students should not be allowed to become totally dependent upon them. Visuals are for illustrating points, for explaining concepts, for clarifying areas of difficulty; they should never become what the student is learning.

They are also designed, or should be, to meet specific learning needs. If for any reason a visual no longer fulfils those aims, or has been less than successful for some reason of design, it should be discarded and the design process begun again. Every rework has the advantage of experience behind it, and it is infinitely better to create a new efficient visual than to continue using one which is misleading. There is no place in the teacher who makes visual material for a pride of creativity which outweighs objective observation and assessment.

CHAPTER V

CONCLUSION

The role of visuals as a learning aid is undeniable; studies over the past few years have conclusively established that. What is still interesting researchers is the way visual material is absorbed, the ways in which visuals should be used, and how they should be designed, developed and presented, and research already shows that their usefulness notwithstanding, they should be used intelligently with a realistic appraisal of their uses. Clearly they are not endlessly applicable, nor is one type of visual useful in all circumstances.

The variables are many. The subject matter influences the kinds of visuals used: geography, for example, is likely to use a large number of maps and graphs. Similarly the behavioural objective will have an effect: whether it is factual or visual information which needs to be understood, explained or rehearsed, and what needs to be recalled from the experience - concepts or facts.

The students themselves influence not only what is likely to be recalled but what form the visuals should take. Children, for example, learn differently from adults who, because of their greater experience and knowledge, learn concepts with the pictures. Mental ability has been examined in its bearings on learning from visuals, and it appears that high IQs learn readily from either the visual or verbal approach. Lower IQs achieve better from visual aids than they do from verbally emphasized work as long as those aids are keyed to the level of the students. Indeed, visuals, in these circumstances, can act as excellent motivational devices.

Motivation is another variable in the effectiveness of visual education, as it is in most educational circles. Students learn any content matter much better when they are interested in what is before them. For this, visuals can be both a cause and an effect. Visual materials play an important role in raising motivation and interest, and the information they contain is better transmitted when motivation and interest are high. This situation is achieved, too, when the visuals are part of a programme which is seen by the students to be valid and attuned to their needs, a factor especially true of adults, and when the visuals are well incorporated with the material being taught.

Cultural factors may affect what students interpret as important and what they see as worthwhile learning techniques. In addition, such factors will influence what they absorb from a visual. Objects and concepts which are not in their own culture or which that culture underemphasizes may be misinterpreted, or, indeed, not noticed at all in visual materials. Visuals can be very effective in this context in realigning cultural acceptance patterns.

The way in which the illustrations are presented is yet another variable. Are they to be in a programme paced by the teacher or one where the students work at a more leisurely or self-controlled pace? Whichever is chosen, the matter of exposure time becomes increasingly important, as numerous studies have shown. A system such as charts allows the students to refer to the visual at any time they need. So, too, do textbook and workbook illustrations. Slides and transparencies may have much the same advantage if the students are given enough viewing time. Films, television and the like are excellent for the presentation of concepts involving movement, but frame time is externally dictated, and the speed at which viualized information passes before students may become a cause of interference.

Interference must be kept in mind when considering what form the visuals will take, and here one should give attention to the ideas of design and realism. All visuals should be clear to all students which means that their size, clarity, spacing and color are all important. It sounds unnecessary to say that a picture in education should not be too small and should not be too large. If it is too small, many details will be indecipherable and hence confusing; if it is too big, a sense of unity will be sacrificed as students, in trying to scan the whole picture, will tend to have their attention taken by a small section. Spacing is part of this concern as well. When parts of the visual are spaced well, the scanning eye moves smoothly and logically from one to another.

The matter of complexity or simplicity is a feature which is in the context of interference. As was noted in Chapter II the realism continuum does not reflect the "learning continuum" and increasing detail tends, instead, to decrease the teaching potential of the visual. However, this remains an inconstant feature. Dwyer found in his study that realistic, colored photographs were useful in certain proscribed areas of a lesson on the part of the heart. All the same, on the whole, studies suggest that less complex illustrations are more readily understood and better for the transfer of information.

In the context of realism should be considered the matter of color. Again it is hard to be definite in any conclusions for sometimes it is true that black and white illustrations can be extremely effective - the contrast is strong. On the other hand, color can be important for clarification, for attention-getting, for visibility considerations, for the interpretation of relationships and for the subtle transmission of attitudes. Children tend to react to color, especially strong color, more definitely than adults who are accustomed to the symbolism of black and white and the ideas it transmits, but all people can absorb a great deal from color. Wise use of color can add to the learning experience; undisciplined use adds nothing and can become an overload, resulting in a decrease of understanding.

Using the visuals requires cueing methodology. Adults in particular need to feel in touch with the work being presented and prefer to be told of the learning objectives in front of them. This has the advantage of focusing their attention and receptive concentration. Questions have a similar effect, written or oral, and are also vital for follow-up recall. Printed material, such as arrows, may continue this role. This rehearsal is important to the retention of learned material. All of these gambits, including patches of color in an otherwise black and white illustration, are further variables.

What this points to is that there is no single approach to visuals, and that there are no hard and fast rules for their use. The variables are vitally concerned in what is right for one situation and what is right for another; in order to adapt a visual for another use it may be necessary to change only one or two of these aspects. Educational effectiveness is dependent upon small things and cannot be made constant.

The variables do not change the fact that visuals are useful but they do mean that commercially made products can seldom fit this fluctuating mould. They cannot take into account the varying needs of students in different learning environments. The whole idea of visuals is that they should respond to just those environments and the needs assessed on an individual basis, that they should deal with learning problems and learning situations which may be unique to an age group, a subject, a cultural attitude or a teaching form. Here lies the great strength of the teacher-made visual aid. No matter what the artistic skills of the teacher, it is he or she alone who recognizes and understands the variables. Only the teacher can produce visual materials which are that immediate response to the situation, and only those are effective teaching aids.

The teacher, then, should not be daunted by the artistic requirements. Experience teaches a lot of ways to deal with these needs, and furthermore brings more ideas. There is no need to turn to another person to translate ideas, for this introduces the potential interference of a third party and his/her interpretations. Necessity is the mother of invention, and it is that which makes teacher-made visual aids a continually vital part of the ESL classroom.

APPENDIX I

Sample Passage for Listening Comprehension with Visual

I SIMPLE

(a) This woman is tired. She has been shopping most of the day. She is wearing a brown coat and on her head she has an orange hat. She is carrying two bags.

(b) This girl has been at school but now she is going home with her mother. She is wearing blue jeans, a blue hat and a red sweater.

II SLIGHTLY HARDER

(a) Mark Booth's waiting for the bus and he's been waiting quite a while. He's cold so he's put his hands in his pockets to keep them warm. He's wearing dark jeans and a yellow jacket, as well as a blue hat.

(b) Jane Stevens is talking to a friend of hers. She's going home from school. She's got on a blue coat and red boots and she's a blonde.

III CONVERSATION

/A/ Goodness, aren't these buses slow. If it doesn't come soon, I think I'll drop. I'm so tired.

/B/ I thought you looked rather weary. What've you been doing? Shopping?

/A/ Yes, I thought I'd get a few things I needed. But a few things always turns into a lot more. What have you been doing?

/B/ Oh, I had to take my daughter to the dentist so I picked her up from school. When I left the house this morning it was really quite cold so I put on this quilted coat and my fur hat. Now I'm so hot! I'll be glad to get home and shed everything.

/A/ Ah, I'm just looking forward to getting rid of parcels, hat, coat and shoes and putting my feet up.

APPENDIX II

POSSIBLE SCRIPT FOR ORDER! ORDER!

It was spring. The tree was in bud and flowers were beginning to appear. Within a few weeks, the tree was a mass of blossom in pink and red. As the weeks passed, spring faded into summer. The blooms on the tree gave way to leaves. The days grew warmer and the tree provided shade for people walking in the park and for the children who played under it with their toys in the long days.

Gradually these long days began to shorten. The green leaves began their change to red and gold. Before many more weeks had passed the snow had arrived once more. Winter had returned.

BIBLIOGRAPHY

BOOKS

Bartley, Diane E. (ed). The Adult Basic Education TESOL Handbook. Collier McMillan, New York, 1979.

Bischoff, L. J. Adult Psychology. Harper and Row, New York, 1969.

Broadbent, D. E. Perception and Communication. Pergmon Press, New York, 1958.

Cornsweet, T. N. Visual Perception. Academic Press, New York, 1970.

Dale, Edgar. Audio Visual Methods in Teaching (3rd Edition) Dryden Press, New York, 1969.

Brunner, E. de S; Wilder, David S.; Kirchner, Corinne; Newberry jr., John S. An Overview of Adult Education Research. Adult Education Association, Chicago, 1959.

Dwyer, Francis M. A Guide for Improving Visualized Instruction. Learning Services, Pa. 1972.

Garvey, Mona. Teaching Displays: Their Purpose, Construction and Use. Linnet Books, Hamden, Conn. 1972.

Gerlach, Vernon S., and Ely, Donald P. Teaching and Media: A Systematic Approach. Prentice-Hall, Inc., Inglewood Cliffs, N.J. 1971.

Haber, R. N. Information-Processing Approaches to Visual Perception. Holt, Rinehart and Winston. New York, 1969.

Haber, R. N. and Hershenson, M. The Psychology of Visual Perception. Holt, Rinehart and Winston. New York, 1973.

Ilyin, Donna, and Tragardh, Thomas (eds). Classroom Practices in Adult ESL. TESOL, Washington, D.C. 1978.

Knox, Alan B. Adult Development and Learning - A Handbook on Individual Growth and Competence in the Adult Years for Education and the Helping Professions. Jossey-Bass, Inc., San Francisco, 1977.

Lister, Susan. A Potpourri of Foreign Language Aids. Californian Foreign Language Teachers' Association, San Jose. 1977.

Miller, James Dale. The Visual Adjunct in Foreign Language Teaching. Chilton Books, for Center for Curriculum Development. Philadelhpia, 1965.

Tanzman, J. and Dunn, K. J. Using Instructional Media Effectively. Parker Publishing Company, West Nyack, New York. 1971.

Williams, Catharine M. Learning from Pictures. National Education Association, Washington, D.C. 1968.

PAMPHLETS

Allen, William H. and Daehling, W.A. Exploratory Study of Form Perception as applied to the Production of Educational Media. U.S.C., Los Angeles, June 1968.

Arnheim, Rudolf. A Study of Visual Factors in Concept Formation. Department of Health, Education and Welfare, 1968.

Boguslavsky, George W. A Study of Characteristics Contributing to the Effectiveness of Visual Demonstrations. Rensselaer Polytechnic Institute. Troy, N.Y. 1967.

Craig, Eugene A. Acquisition of Visual Information. Department of Health, Education and Welfare, Washington, D.C. 1972.

Dwyer, Francis M. Effect of Varying the Amount of Realistic Detail in Visual Illustrations Designed to Complement Programmed Instruction. Penn State University, June 1968.

Dwyer, Francis M. Study of the Relative Effectiveness of Varied Visual Illustrations. Department of Health, Education and Welfare. Washington, D.C. 1967.

Gagne, Robert M. and Gropper, George L. *Individual Differences in Learning from Visual and Verbal Presentations*. American Institutes for Research, Washington, D.C. 1965.

Galfo, Armand J. *A Study of the Effects on Pupil Achievement of Certain Audio and Visual Presentation Sequences*. College of William and Mary, Williamsburg, Va., (no date). /E.R.I.C. ED.029.505/

Gropper, George L. *The Role of Visuals in Verbal Learning*. Department of Health, Education and Welfare Washington, D.C. 1958.

Holliday, William G. *Using Pictures in the Classroom*. University of Calgary. 1979.

Linker, Jerry M. *Designing Instructional Visuals: Theory, Composition, Implementation*. Instructional Media Center, University of Texas. 1968.

Norris, Robert G. *Characteristics of Adults that Facilitate and/or Interfere with Learning*. Department of Postsecondary Education, Florida State University, 1977.

Thomas, James L. *The Use of Pictorial Illustrations in Instruction: Current Findings and Implications for Further Research*. 1976. /E.R.I.C. ED. 160.108/

PRESENTED PAPERS

Berry, Louis H. "Effects of Color Realism on Pictorial Recognition". Paper presented at Annual Conference of the Association for Educational Communications, New Orleans, La. March, 1979.

Bikkar, S. Randhara et al. "Visual Learning Revised". Paper presented at Annual Conference of the Association for Educational Communications, Miama Beach, Fla. April, 1977.

Borg, Walter R. and Schulter, Charles F. "The Use of Detail and Background in Visuals and Its Effect on Learner Achievement and Attitude". Paper presented at Annual Meeting of the American Educational Research Association. Toronto, Canada. March, 1978.

Brody, Philip J. and Legenza, Alice. "The Effects of Picture Type and Picture Location on Comprehension." Paper presented at the Annual Conference of Association for Educational Communication. New Orleans, La. March, 1979.

Froese, V. "The 'Arts' in Language Arts." Paper presented at the Annual Meeting of the National Council of Teachers of English. New York City. Nov. 24-26, 1978.

Gummerman, Kent and Others. "Age and Visual Information Processing." Paper presented at Annual Meeting of the Psychonomic Society. Denver, Colo. November 1975.

Joseph, John H. "Instructional Effectiveness of Integrating Abstract and Realistic Visualization." Paper presented at the Annual Conference of Association for Educational Communications. New Orleans, La. March, 1979.

Lamberski, Richard J. and Roberts, Dennis M. "Efficiency of Students' Achievement Using Black/White and Color-coded Learning and Test Materials." Paper presented at Annual Conference of Association for Educational Communications. New Orleans, La. March, 1979.

Lockard, James. "Educational Media in the Foreign Language Classroom." Paper presented at Conference on New Methodologies in Modern Language Teaching. October 1977.

Smith, Roger A. "Educational Games in Today's Learning." Paper presented at Annual Convention of American Industrial Arts Association. April, 1976.

Tong, John S. "Visual Aids and Language Learning - An Experimental Study." Speech presented at Rocky Mt. Modern Language Association, Las Vegas. October, 1971.

Winn, William and Everett, Richard J. "Differences in the Affective Meaning of Color versus Black/White Pictures." Paper presented at Annual Conference of Association for Educational Communications. Kansas City, Mo. April, 1978.

ARTICLES

Allen, William H. "Intellectual Abilities and Instructional Media Design." *Audio Visual Communication Review*, Vol. 23, Summer 1975, pp. 139-170.

Allport, D.A. "The Rate of Assimilation of Visual Information." *Psychonomic Science*, Vol. 12, 1968, pp.231-2.

Arnheim, Rudolf. "What do the Eyes Contribute?" *Audio Visual Communication Review*, Vol. 10. September-October, 1962, pp.10-21.

Beck, Harry S. and Dunbar, Ann M. "The Consistency of Color Associations to Synonymous Words." *Journal of Educational Research*, Vol. 58, September, 1964, pp. 41-3.

Bireaud, Anne. "The Role of the Teacher in a Resource-Based System." *Educational Media International*, Vol. 4, 1975. pp.8-9.

Briggs, G. E. and Blaha, J. "Memory Retrieval and Central Comparison Times in Information Processing." *Journal of Experimental Psychology*, Vol. 79, 1969, pp. 395-402.

Broadbent, D. E. "Information Processing in the Nervous System." *Science*, Vol. 150, 1965, pp. 457-62.

Broadbent, D. E. "Word Frequency Effect and Response Bias." *Psychology Review*, Vol. 74, 1967, pp. 1-15.

Brown, Thomas H. "Using Visual Cues as an Aid for Memorizing a Dialog." *Modern Language Journal*, Vol. 47, December, 1963, pp. 363-66.

Clark, John. "The Involvement of the Teacher in the Development of Learning Materials." *Educational Media International*, Vol. 4, 1975, pp. 10-12.

Corballis, M. C. "Rehearsal and Decay in Immediate Recall of Visually and Aurally Presented Items," in Haber, R. N. (ed). *Information-Processing Approaches to Visual Perception*, Holt, Rinehart and Winston, New York, 1973.

Dallett, K. and Wilcox, S. "Remembering Pictures versus Remembering Descriptions." *Psychonomic Science*, Vol. 11, 1968, pp. 139-40.

Daum, David A. "A 'Role' for Teaching Materials." English Language Teaching Journal, Vol. XXVII, n.2. February 1973, pp. 120-125.

Deutsch, J. A. and Deutsch, D. "Attention: Some Theoretical Considerations." Psychology Review, Vol. 70, 1963, pp. 80-90.

Deyes, A. F. "Language Games for Advanced Students." English Language Teaching Journal, Vol. XXVII, no.2 February 1973, pp. 160-65.

Dwyer, F. M. "The Relative Effectiveness of Varied Visual Illustrations in Complementing Programmed Instruction." Journal of Experimental Education, Vol. 36, 1967, pp. 34-42.

Dwyer, F. M. "The Effectiveness of Visual Illustrations Used to Complement Programmed Instruction." Journal of Psychology, Vol. 70, 1968, pp. 155-60.

Dwyer, F. M. "The Effect of Stimulus Variability on Immediate and Delayed Retention." Journal of Experimental Education, Vol. 38, 1969, pp. 30-37.

Dwyer, F. M. "The Effect of Image Size on Visual Learning." Journal of Experimental Education, Vol. 39, 1970, pp. 36-41.

Dwyer, F. M. "Color as an Instructional Variable." Audio Visual Communication Review, Vol. 19, 1971, pp. 399-416.

Dwyer, F. M. "The Effect of Knowledge of Objectives on Visualized Instruction." Journal of Psychology, Vol. 77, 1971, pp. 219-21.

Dwyer, F. M. "The Effect of Questions on Visualized Instruction." Journal of Psychology, Vol. 78, 1971, pp. 181-83.

Dwyer, F. M. "Questions as Advanced Organizers in Visualized Instruction." Journal of Psychology, Vol. 78, 1971, pp. 261-64.

Dwyer, F. M. "Student Perceptions of the Instructional Effectiveness of Black and White and Colored Illustrations." Journal of Experimental Education, Vol. 40, 1972, pp. 28-34.

Dwyer, F. M. "Student Perceptions of the Instructional Value of Visual Illustration," in Dwyer, F. M. *A Guide for Improving Visualized Instruction, Learning Services, State College, Pa. 1972*, pp. 60-62.

Franzwa, Dale. "The Influence of Meaningfulness, Picture Detail and Presentation Mode on Visual Retention." *Audio Visual Communication Review*, Vol. 21, Summer 1973, pp. 209-225.

Gagne, Eve E. "Using Pictures to Facilitate Memory." *Academic Therapy*, Vol. XII, Summer 1977, pp. 479-92.

Gibson, J. J. "A Theory of Pictorial Perception." *Audio Visual Communication Review*, Vol. II, Winter 1954, pp. 3-23.

Glaser, Robert. "Psychological Bases for Instructional Design." *Audio Visual Communication Review*, Vol. 14, Winter 1966, pp. 433-49.

Gould, J. D. and Schaffer, A. "Eye Movement Patterns During Visual Information Processing." *Psychonomic Science*, Vol. 3, 1965, pp. 317-18.

Gropper, George L. "Learning from Visuals: Some Behavioural Considerations." *Audio Visual Communication Review*, Vol. 14, Summer 1966, pp. 37-69; and Vol. 16, Winter 1968, pp. 1-13.

Gropper, George L. "Why is a Picture worth a Thousand Words?" *Audio Visual Communications Review*, Vol. 11, July-August, 1963, pp. 75-95.

Haber, R. N. "Nature of the Effect of Set on Perception," in Haber, R.N., *Information-Processing Approaches to Visual Perception*, Holt, Rinehart and Winston, New York, 1969, pp. 326-39.

Haber, R. N. "Repetition as a Determinant of Perceptual Recognition Processes," in Haber, R.N., *Information-Processing Approaches to Visual Perception*, Holt, Rinehart and Winston, New York, 1969, pp. 273-9.

Harris, C.S. and Haber, R. N. "Selective Attention and Coding in Visual Perception." *Journal of ExperiMental Psychology*, Vol. 65, 1963, pp. 328-33.

Harter. M. Russell. "Excitability Cycles and Cortical Scanning: A Review of Two Hypotheses of Central Intermittency in Perception," in Haber, R. N. *Information-Processing Approaches to Visual Perception*, Holt, Rinehart and Winston, New York, 1969, pp. 151-62.

Hawley, Jane S. "Working Together for Greater Conceptual Integrity of Commercial Teaching Materials in English." *English Education*, Vol. 10, October 1978, pp. 9-16.

Hyman, Lester M. and Kaufman, Herbert. "Information and the Memory Span," in Haber, R. N. *Information-Processing Approaches to Visual Perception*, Holt, Rinehart and Winston, New York, 1969, pp. 245-9.

Kaplan, Robert and Simmons, Francine G. "Effects of Instructional Objectives used as Orienting Stimuli or as Summary/Review Upon Prose Learning." *Journal of Educational Psychology*, Vol. 66, August 1974, pp. 614-623.

Kaswan, Jaques and Young, Stephen. "Effect of Luminance, Exposure Duration and Task Complexity on Reaction Time." *Journal of Experimental Psychology*, Vol. 69, 1965, pp. 393-4.

Katzman, Natan and Nyenhuis, James. "Color vs. Black and White Effects on Learning, Opinion and Attention." *Audio-Visual Communication Review*, Vol. 20, Spring, 1972, pp. 16-28.

Keele, Steven W. and Chase, William G. "Short-term Visual Storage," in Haber, R. N. *Information-Processing Approaches to Visual Perception*, Holt, Rinehart and Winston, New York, 1969, pp. 151-63.

Kleinert, E. John. "More Ways to Motivate." *Instructor*, Vol. 83, August/September 1973, pp. 88-90.

Lesser, Gerald S. and Schueler, Herbert. "New Media Research in Teacher Education." *Audio-Visual Communication Review*, Vol. 14, Fall 1966, pp. 318-61.

Levin, Joel R; Divine-Hawkins, Patricia; Kerst, Stephen M; and Guttman, Joseph. "Individual Differences in Learning from Pictures and Words - the Development and Application of an Instrument." *Journal of Educational Psychology*, Vol. 55, June 1974, pp. 296-303.

Lindsay, Paul. "Resistances to Learning in EFL." English Language Teaching Journal, Vol. XXI, no. 3, April 1977, pp. 184-90.

Mackworth, Jane F. "The Relation between the Visual Image and Post-Perceptual Immediate Memory." Journal of Verbal Learning and Verbal Behaviour, Vol. 2. 1963, pp. 75-85.

Nickerson, R. S. "A Note on Long-term Recognition Memory for Pictorial Material." Psychonomic Science, Vol. 11, 1968, pp. 58-60.

Norberg, Kenneth. "Perception Theory and Audiovisual Education." Audio Visual Communication Review, Vol. 10, September-October, 1962, Supplement 5.

Norberg, Kenneth. "Visual Perception Theory and Instructional Communication." Audio Visual Communication Review, Vol. 14, Fall 1966, pp. 301-17.

Paivio, Allan; Rogers, T.B; and Smythe, Padric C. "Why are Pictures Easier to Recall than Words?" Psychonomic Science, Vol. 11, 1968, pp. 137-8.

Parkinson, Stanley R. "Short-term Memory while Shadowing Multiple-item Recall of Visually and Aurally Presented Letters." Journal of Experimental Psychology, Vol. 92, 1972, pp. 256-65.

Pattison, Bruce. "Organizing Motivation." English Language Teaching Journal, Vol. XXX, no. 4, July 1976, pp. 286-93.

Peeck, J. "Retention of Pictorial and Verbal Content of a Text with Illustrations." Journal of Educational Psychology, Vol. 66, 1974, pp. 880-88.

Posner, Michael I. "Rate of Presentation and Order of Recall in Immediate Memory," in Haber, R. N. Information-Processing Approaches to Visual Perception, Holt, Rinehart and Winston, New York, 1969, pp. 279-82.

Posner, Michael I. "Short-term Memory Systems in Human Information Processing," in Haber, R. N. Information-Processing Approaches to Visual Perception, Holt, Rinehart and Winston, New York, 1969, pp. 49-60.

Rees, A.L.W. "Games and Question Practice." English Language Teaching Journal, Vol. XXIX, No. 2. January 1975, pp. 135-43.

Roebuck, Martyn. "Evaluation and Educational Media." Educational Media International, no. 4, 1975, pp. 16-17.

Sarkar, S. "The Use of Pictures in Teaching English as a Second Language." English Language Teaching Journal, Vol. XXXII, no. 3, April 1978, pp. 175-80.

Shaffer, W.O. and Shiffrin, R. M. "Rehearsal and Storage of Visual Information." Journal of Experimental Psychology, Vol. 92, 1972, pp. 292-96.

Shepard, R. N. "Recognition Memory for Words, Sentences and Pictures." Journal of Verbal Learning and Verbal Behaviour, Vol. 6, 1967, pp. 156-63.

Sorenson, H. "Adult Age as a Factor in Learning." Journal of Educational Psychology, Vol. 21, September 1930, pp. 451-59

Spaleny, Eugene and Peprnik, Jaroslav. "Foreign Language Teaching Pictures as an Organized System." Journal of International Review of Applied Linguistics in Language Teaching, Vol. 4, November 1967, pp. 171-183.

Spaulding, Seth. "Research on Pictorial Illustration." Audio Visual Communication Review, Vol. 1, no. 1, Winter 1955, pp. 35-45.

Spaulding, Seth. "Communication Potential of Pictorial Illustration. Audio Visual Communication Review, Vol. 1, no. 1, Winter 1956, pp. 31-46.

Sperling, George. "A Model for Visual Memory Tasks," in Haber, R. N. Information-Processing Approaches to Visual Perception, Holt, Rinehart and Winston, New York, 1969, pp. 18-31.

Sperling, George. "Successive Approximations to a Model for Short-term Memory," in Haber, R. N. Information-Processing Approaches to Visual Perception, Holt, Rinehart and Winston, New York, 1969, pp. 32-37.

Strang, Harold R. "Pictorial and Verbal Media in Self-Instruction of Procedural Skills. Audio Visual Communications Review, Vol. 21, Summer 1973, pp. 225-233.

Taylor, Barry P. "Adult Language Learning Strategies and Their Pedagogical Implications." TESOL Quarterly, Vol. 9, no. 4, December 1975, pp. 391-99.

Treisman, Anne and Geffen, Gina. "Selective Attention: Perception or Response?" Quarterly Journal of Experimental Psychology, Vol. 19, 1967, pp. 1-17.

Travers, Robert M. "The Transmission of Information to Human Receivers." Audio Visual Communications Review, Vol. 12, Winter 1964, pp. 373-85.

Wicker, Frank W. "On the Locus of Picture-Word Difference in Paired-Associate Learning." Journal of Verbal Learning and Verbal Behaviour, Vol. 9, 1970, pp. 52-7.

Wicker, Frank W. "Photographs, Drawings and Nouns as Stimuli in Paired-Associate Learning." Psychonomic Science, Vol. 18, 1970, pp. 205-6.

Wicker, Frank M. and Evertson, Carolyn M. "Prerecall and Postrecall Imagery Ratings with Pictorial and Verbal Stimuli in Paired-Associate Learning." Journal of Experimental Psychology, Vol. 92, 1972, pp. 75-82.

Williams, L. G. "The Effect of Target Specification on Objects Fixated During Visual Search," in Haber, R. N. Information-Processing Approaches to Visual Perception, Holt, Rinehart and Winston, New York, 1969, pp. 220-25.